BRYOPHYTA AND PTERIDOPHYTA OF PENNSYLVANIA

PORTER

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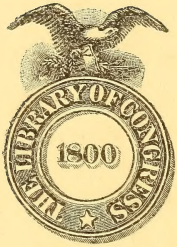

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CATALOGUE

OF THE

BRYOPHYTA

(Hepatics, Anthocerotes and Mosses)

AND

PTERIDOPHYTA

(Ferns and Fern-allies)

FOUND IN

PENNSYLVANIA.

BY

THOMAS CONRAD PORTER, D. D., LL. D.

BOSTON, U.S.A.
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PREFACE.

This catalogue presents a complete list of the species of the Bryophytes and Pteridophytes of Pennsylvania, so far as they have come to the notice of the author. Nearly all the specimens cited are either in the herbarium of Lafayette College, Easton, Pa., or are preserved in other collections where they have been examined by the author.

The foundation of the list of Bryophytes was an enumeration of the species prepared by the late Mr. Thomas P. James, of Cambridge, Massachusetts, which together with a mounted series of the species named, and duplicates from a large number of stations, he presented to the herbarium of Lafayette College. All of the specimens just referred to were afterward critically examined by Mr. Coe F. Austin, who himself enriched the original set by his own contributions. Many species since discovered within the bounds of the State have been added.

The catalogue owes much of its enlargement also to the labors of Dr. A. P. Garber and of Mr. D. A. Burnett, and to the kindness of Mrs. N. L. Britton, of Messrs. Francis Wolle and Eugene A. Rau, and of Dr. John K. Small.

This volume is to be followed by another which will contain the Spermatophytes or flowering plants of the State, both the native species and those introduced and growing beyond culture.

THOS. C. PORTER

Easton, Pa.

NOTE.

At the request of Dr. S. A. Martin, executor of Professor Porter's estate, the undersigned has consented to edit this catalogue and that of the higher plants of the State referred to in a preceding paragraph.

J. K. SMALL

New York City.

HEPATICAE.

MARCHANTIALES.

RICCIACEAE.

Riccia L.

R. arvensis Austin.—NORTHAMPTON, Lehigh Mountain, *Rau.*

R. crystallina L.—PHILADELPHIA, Moyamensing, *James.*

R. fluitans L.—In stagnant and running water. NORTHAMPTON, Lucy Furnace, *Rau;* LEHIGH, *Rau;* BUCKS and PHILADELPHIA, *James;* DELAWARE, Radnor, *James;* CHESTER (Flora Cestrica); LANCASTER, Collin's Ferry, *Porter.*

R. glauca L.—On damp earth. PHILADELPHIA, Bustleton, *James;* CHESTER (Flora Cestrica); FRANKLIN, Mercersburg, *Porter.*

R. nigrella DC.—LANCASTER, *Porter.*

R. Sullivantii Aust.—LEHIGH, *Rau.*

Ricciocarpus Corda.

R. natans (L.) Corda.—Flonting on water. MONROE, *Crawford;* SUSQUEHANNA, *Graves;* LANCASTER and HUNTINGDON, *Porter;* ALLEGHENY, *Knipe.*

MARCHANTIACEAE.

Reboulia Raddi.

R. hemisphaerica (L.) Raddi.—NORTHAMPTON, PHILADELPHIA, *James;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER and FRANKLIN, *Porter.* Very common.

Grimaldia Nees.

G. fragrans (Balb.) Corda.—NORTHAMPTON, *James;* LANCASTER and FRANKLIN, *Porter.*

Asterella Beauv.

A. tenella (L.) Beauv.—On damp ground. NORTHAMPTON, Easton, *Porter;* Bethlehem, *Rau;* PHILADELPHIA, *James;* DELAWARE (Smith's Catalogue); CHESTER, New Garden, *Michener.*

Conocephalum Wigg.

C. conicum (L.) Dumort.—On wet rocks. NORTHAMPTON, Bushkill Gap, *Porter;* LEHIGH, *Rau;* BUCKS, Nockamixon Cliffs, *Porter;* PHILADELPHIA, *James;* DELAWARE (Smith's Catalogue); CHESTER, New Garden, *Michener;* LANCASTER and FRANKLIN, *Porter;* WESTMORELAND, Greensburg *James.*

Dumortiera R. Bl. & N.

D. hirsuta (Sw.) R. Bl. & N.—On shaded, wet rocks. NORTHAMPTON, Bushkill Gap above Easton, *Porter;* CHESTER, on mountain south of Pottstown, *Updegrove.*

Preissia Corda.

P. quadrata (Scop.) Nees.—On damp rocks. NORTHAMPTON, Glendon, *Porter;* Martin's Creek, *Austin;* SCHUYLKILL, near Pottsville, *Porter.*

Marchantia L.

M. polymorpha L.—In wet, springy places. NORTAAMPTON, Easton, Lehigh Mountain, *Rau;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER and HUNTINGEON, *Porter.* Common.

JUNGERMANNIALES.

METZGERIACEAE.

Riccardia S. F. Gray.

[*Aneura* Dumort.]

R. multifida (L.) S. F. Gray.—On decaying moss and wood.

MONROE, Tobyhanna Mills, *James;* Water Gap, *Rau;* PHILADELPHIA, Fairmount Park, *James;* CENTRE, Bear Meadows, *Porter.*

R. palmata (Hedw.) Carruth.—On rotten logs. CENTRE, *Porter;* CAMBRIA, Cresson, *James.*

R. pinguis (L.) S. F. Gray.—On moist ground. MONROE, Water Gap, *Rau;* NORTHAMPTON, Easton, *Porter;* Lehigh Mountain, *Rau;* PHILADELPHIA, Fairmount Park, *James;* CENTRE, Bear Meadows, *Porter.*

R. pinnatifida (Sw.) Carruth.—LEHIGH, *Rau.*

R. sessilis (Spreng.) Kuntze.—On old, damp logs. NORTHAMPTON, Easton, *Porter;* CHESTER (Flora Cestrica).

Metzgeria Raddi.

M. conjugata Lindb.—On shaded rocks. MONROE, *James;* NORTHAMPTON, Easton and Bethlehem; PHILADELPHIA; DELAWARE and CHESTER, *James;* LANCASTER, *Porter;* PERRY, *James.*

Pallavicinia S. F. Gray.

P. Lyallii (Hook.) S. F. Gray.—Among damp mosses. NORTHAMPTON, on the Monocacy, *Rau;* CHESTER, Coventry, *James;* LANCASTER; CENTRE, Bear Meadows, *Porter.*

Pellia Raddi.

P. epiphylla (L.) Corda.—On damp ground. WAYNE, *Garber;* NORTHAMPTON, Bethlehem, *Fiot;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); PHILADELPHIA, *James.*

Blasia Mich.

B. pusilla L.—On the ground. NORTHAMPTON, Martin's Creek, *Porter*, Bethlehem, *Fiot;* ELK, Benezette, *McMinn.*

Fossombronia Raddi.

F. angulosa Raddi.*—In moist meadows. MONROE, Water Gap, *Austin;* NORTHANPTON, Seidersville, *R. G. Bechdolt.*

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* Probably *F. salina* Lindb.

F. pusilla (L.) Dumort.—On damp ground. NORTHAMPTON, along the Monocacy, *Rau.*

JUNGERMANNIACEAE.

Marsupella Dumort.

M. emarginata Dumort.—CARBON, Stony Creek, *Rau.*

M. sphacelata (Gieseke) Dumort.—On wet rocks. CARBON, Stony Creek, *Rau.*

Nardia S. F. Gray.

N. crenulata (Sm.) Lindb.—PHILADELPHIA, on the Wissahickon, *James.*

N. hyalina (Lyell) Carr.—NORTHAMPTON, Lime Ridge, *Rau.*

N. Lescurii (Aust.) Underw.—CARBON, *Rau.*

N. scalaris (Schrad.) S. F. Gray.—MONROE, Water Gap, *Austin.*

Jungermannia L.

J. obtusifolia Hook.—PHILADELPHIA, Bartram's Garden and Fairmount Park, *James.*

J. barbata Schreb.—MONROE, Water Gap, *Austin.*

J. bicrenata Lindenb.—MONROE, Water Gap, *Austin.*

J. excisa Dickson.—MONROE, Water Gap, *Austin.*

J. exsecta Schmidel.—NORTHAMPTON, Lehigh Mountain, *Rau.*

J. incisa Schrad.—CARBON, *Rau.*

J. inflata Huds.—PIKE, CARBON and LEHIGH, *Rau.*

J. pumila With.—On rotten logs. LEHIGH, *Rau;* FRANKLIN, Mercersburg, *Porter.*

J. intermedia (Lindb.) Dumort.—BUCKS, Narrowsville, *James;* PHILADELPHIA, Fairmount Park, *James;* LANCASTER, Martic Forge, *Porter.*

Plagiochila Dumort.

P. asplenioides (L.) Dumort.—Along shaded rivulets. NORTHAMPTON, *James* and *Rau;* BUCKS, Narrowsville, *James;* PHILADELPHIA, Fairmount Park, *James;* CHESTER (Flora Cestrica).

P. porelloides Lindb.*—Among mosses in shaded ravines. NORTHAMPTON, *James* and *Rau;* BUCKS, Narrowsville *James;* PHILADELPHIA, Fairmount Park, *James;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, Chickies, *Porter.*

P. spinulosa (L.) Dumort.†—BUCKS, Narrowsville, *James;* DELAWARE (Smith's Catalogue).

Lophocolea Dumort.

L. bidentata (L.) Dumort.—NORTHAMPTON, Lehigh Mountain, *Rau;* CHESTER (Flora Cestrica); LANCASTER, *Porter.*

L. Austini Lindb.—NORTHAMPTON and LEHIGH, *Rau.*

L. heterophylla (Schrad.) Dumort.—On the ground and old logs.—NORTHAMPTON, Lime Ridge, *Rau;* PHILADELPHIA, Fairmount Park, *James;* DELAWARE (Smith's Catalogue); CHESTER, New Garden, *Michener.*

L. minor Nees.—NORTHAMPTON, Lehigh Mountain, *Rau.*

Cheiloscyphus Corda.

C. adscendens Hook. & Wils.—NORTHAMPTON, Bethlehem, *Rau;* DELAWARE (Smith's Catalogue).

C. polyanthos (L.) Corda.—On wet, springy ground. MONROE, Tobyhanna Mills, *Porter;* CARBON, Stony Creek, *Rau;* NORTHAMPTON, Bethlehem, *Rau;* CHESTER (Flora Cestrica); DELAWARE (Smith's Catalogue); HUNTINGDON and CENTRE, *Porter.*

**P. porelloides* Lindb. is not now considered specifically distinct from *P. asplenioides.*

† This is probably *P. Sullivantii* Gottsche. *P. spinulosa* is a species of the Old World.

Harpanthus Nees,

H. scutatus (Web.) Spruce·—PIKE and CARBON, *Rau;* FRANKLIN, Mercersburg, *Porter.*

Geocalyx Nees.

G. graveolens (Schrad.) Nees.—On the ground and rotten logs. NORTHAMPTON, *Rau;* PHILADELPHIA, Fairmount Park, *James;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); FRANKLIN, *Porter;* CAMBRIA and CLARION, *James.*

Cephalozia Dumort.

C. bicuspidata (L.) Dumort.—CARBON, *Rau.*

C. catenulata (Huebn.) Lindb.—CARBON and LEHIGH, *Rau.*

C. curvifolia (Dicks.) Dumort.—On rotten logs. NORTHAMPTON, Flint Hill, *Rau;* PHILADELPHIA, Fairmount Park, *James;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, *Porter;* CAMBRIA, *Porter* and *James.*

C. divaricata (Sm.) Dumort.—On rocks. PHILADELPHIA, Fairmount Park, *James.*

C. media Lindb.—On old logs. FRANKLIN, Mercersburg, *Porter.*

Odontoschisma Dumort.

O. denudatum (Nees) Dumort.—On the ground and rotten wood. NORTHAMPTON, Easton, *Garber;* CHESTER (Flora Cestrica); DELAWARE (Smith's Catalogue); LANCASTER, FRANKLIN, HUNTINGDON and CAMBRIA, *Porter.*

O. Sphagni (Dicks.) Dumort.—On decayed logs and the ground. MONROE, Naomi Pines, *Mrs. Britton;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); FRANKLIN, Mercersburg, *Porter.*

Kantia S. F. Gray.

K. Trichomanis (L.) S. F. Gray.—On the ground and rotten

logs. PIKE, LEHIGH and NORTHAMPTON, *Rau;* PHILADELPHIA, Fairmount Park, *James;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica).

Bazzania S. F. Gray.

B. trilobata S. F. Gray.—In wet woods and swamps. NORTHAMPTON, Easton, Bethlehem, *Rau;* DELAWARE (Smith's Catalogue); CHESTER, *Michener;* LANCASTER, *Porter.*

Lepidozia Dumort.

L. reptans (L.) Nees.—NORTHAMPTON, Nazareth, *Rau.*

L. setacea (Web.) Mitt.—NORTHAMPTON, Lehigh Mountain, *Rau;* CARBON, *Rau;* DELAWARE (Smith's Catalogue).

Blepharostoma Dumort.

B. trichophyllum (L.) Dumort.—FRANKLIN, Mercersburg, *Porter.*

Herberta S. F. Gray.

H. adunca (Dickson) S. F. Gray.—CARBON, *Rau.*

Ptilidum Nees.
[*Blepharozia* Dumort.]

P. ciliaris (L.) Nees.—On roots of trees and old logs. CARBON and LEHIGH, *Rau;* MONROE, NORTHAMPTON, MONTGOMERY, *James;* PHILADELPHIA, Fairmount Park, *James;* CHESTER, *Michener;* FRANKLIN and HUNTINGDON, *Porter;* ELK, *McMinn.*

Trichocolea Dumort.

T. tomentella (Ehrh.) Dumort.—MONROE, *Porter;* PHILADELPHIA, Fairmount Park, *James;* CHESTER, New Garden, *Michener;* LANCASTER, Martic Forge, *Porter.*

Diplophylleia Trevis.

D. taxifolia (Wahl.) Trevis.—On damp and shaded ground. NORTHAMPTON, on the Monocacy, *Rau.*

Scapania Dumort.

S. nemorosa (L.) Dumort.—Damp places.—MONROE; NORTH-

TON, Easton, and Bethlehem, *Rau;* PHILADELPHIA, *Watson*, Fairmount Park, *James;* CHESTER, *Michener;* LANCASTER and FRANKLIN, *Porter.*

S. subalpina (Nees) Dumort.—CARBON, *Rau.*

S. undulata Nees & Mont.—On damp ground. CARBON, Stony Creek, *Rau;* NORTHAMPTON, Easton, *James;* FRANKLIN, Mercersburg, *Porter.*

Radula Dumort.

R. complanata (L.) Dumort.—On bark of trees. NORTHAMPTON, Easton, *Porter;* Bethlehem, *Rau;* DELAWARE (Smith's Catalogue); CHESTER, *James;* LANCASTER, Martic Forge, *Porter.*

R. obconica Sull.—On rocks. BUCKS, Narrowsville, *James.*

R. tenax Lindb.—LEHIGH, Allentown, *Rau;* CARBON, *Rau;* MONROE, Water Gap, *Austin.*

Porella L.

P. platyphylla (L.) Lindb.—On rocks and trees. NORTHAMPTON, Easton, *Porter;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, Martic Forge, *Porter.*

P. pinnata L.—On wet rocks in rivulets. LEHIGH, *Rau;* NORTHAMPTON; BUCKS, Narrowsville, *James;* LANCASTER, *Porter.*

P. rivularis (Nees) Trevis.—BUCKS, Narrowsville, *James.*

Lejeunea Libert.

L. clypeata (Schwein.) Sull.—On rocks. NORTHAMPTON; PHILADELPHIA, *James;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, *Porter;* Laurel Hill, western Pennsylvania, on the authority of Underwood.

L. echinata (Hook.) Tayl.—Exposed rocks. LEHIGH, *Rau;* BUCKS, Narrowsville, *James.*

L. lucens Tayl.—Wet rocks. LANCASTER; HUNTINGDON, near Barre Forge, *Porter.*

L. serpyllifolia Americana Lindb.—On trees. HUNTINGDON, Alexandria, *Porter;* CARBON, *Rau.*

Jubula Dumort.

J. Hutchinsiae Sullivantii Spruce.—On the ground and stones. CARBON, Stony Creek, *Rau;* MONROE, Water Gap, *Garber;* FRANKLIN, Mercersburg, *Porter.*

Frullania Raddi.

F. Asa-Grayana Mont.—On trees. PHILADELPHIA, *James;* CHESTER, *James;* DELAWARE, *James;* LANCASTER, Snavely's Mill, *Porter;* PERRY, *James.*

F. Eboracensis Gottsche.—On rocks and trees. NORTHAMPTON, Easton Cemetery, *James;* Lehigh Mountain, *Rau;* CHESTER, *James;* LANCASTER, *Porter.*

F. plana Sull.—On shaded rocks. NORTHAMPTON, Lime Ridge, *Rau;* LANCASTER and FRANKLIN, *Porter.*

F. riparia Hampe.—NORTHAMPTON, *Rau;* Delaware (Smith's Catalogue); CHESTER, *James;* LANCASTER, *Porter;* FRANKLIN, Mercersburg, *Porter;* HUNTINGDON, *Porter.*

F. squarrosa (R. Bl. & Nees) Dumort.—LANCASTER, mouth of the Tucquan Creek, *Small.*

F. Virginica Gottsche.—On trees. NORTHAMPTON, Easton Cemetery, *James;* PHILADELPHIA, Fairmount Park, *James;* CHESTER (Flora Cestrica); LANCASTER, *Porter;* FRANKLIN, Mercersburg, *Porter.*

ANTHOCEROTES.

ANTHOCEROTALES.

ANTHOCEROTACEAE.

Anthoceros L.

A. laevis L.—On damp ground. NORTHAMPTON, Lehigh Mountain, *Rau*, Easton, *Porter;* CHESTER (Flora Cestrica); DELAWARE (Smith's Catalogue); LANCASTER, *Porter.*

A. punctatus L.—NORTHAMPTON, Lime Ridge, *Rau;* BUCKS, Narrowsville, *James;* PHILADELPHIA, *James;* DELAWARE, (Smith's Catalogue); FRANKLIN, *Porter.*

Notothylas Sull.

N. orbicularis (Schwein.) Sull.—On wet ground. NORTHAMPTON, Lehigh Mountain, *Rau;* PHILADELPHIA, Moyamensing, *James;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica).

N. melanospora Sull.—NORTHAMPTON, *Rau;* PHILADELPHIA, *James.*

MUSCI.*

SPHAGNALES.

SPHAGNACEAE.

Sphagnum L.

S. acutifolium Ehrh.—MONROE, *James;* LUZERNE, *Garber;* LEHIGH, *Rau;* HUNTINGDON, Warrior's Ridge, *Porter;* CAMBRIA, Cresson, *James.*

S. acutifolium deflexum Schimp.—Carbon, *Rau.*

S. cuspidatum Ehrh.—MONROE, *James;* LUZERNE, *Rau;* PIKE, *Rau.*

S. cuspidatum intermedium (Hoffm.) Rau.—PIKE and MONROE, *Porter.*

S. cuspidatum Torreyanum (Sull.) Lesq. & James.—MONROE, *Porter.*

S. cymbifolium Ehrh.—WAYNE, *Garber;* MONROE, *James;* CARBON, *Rau;* LUZERNE, *Rau;* CHESTER, *James:* HUNTINGDON, *Porter;* CAMBRIA, *James* and *Porter.*

S. fimbriatum Wils.—WAYNE, Mount Pleasant, *Garber.*

S. Girgensohnii Russ.—LANCASTER, *Muhlenberg.*

S. imbricatum Hornsch.—LANCASTER and LEBANON, Mt. Hope, *Small.*

S. laracinum Spruce.—LANCASTER and LEBANON, Mt. Hope, *Small.*

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* Shortly before his death, Professor Porter submitted the manuscript of the mosses to Mrs. Britton for revision. Mrs. Britton has kindly revised such portions as needed it in the light of recent studies, and has also added the citations of additional localities that have come to her notice through specimens in the herbarium of The New York Botanical Garden. [ED.]

S. molluscum Bruch.—CARBON, *Rau.*

S. papillosum Lindb.—LUZERNE, Frenchtown, *Rau.*

S. rigidum (Nees) Schimp.—LUZERNE, Frenchtown, *Rau;* PHILADELPHIA, Fairmount Park, *James.*

S. rigidum laxum Austin.—LUZERNE, Frenchtown, *Rau.*

S. rigidum squarrosum Ross.—NORTHAMPTON, LEHIGH and LUZERNE, *Rau.*

S. squarrosum Pers.—PIKE and CARBON, *Rau;* MONROE, *Porter;* LANCASTER, Smithville, *Small;* HUNTINGDON and CAMBRIA, *Porter.*

S. strictum Lindb.—MONROE, Pocono plateau, *James* and *Garber;* PIKE, LUZERNE and CARBON, *Rau.*

S. subsecundum Nees.—MONROE, Pocono plateau, *James;* CARBON and LEHIGH, *Rau.*

S. subsecundum contortum (Schultes) Schimp.—LANCASTER and LEBANON, Mt. Hope, *Small.*

ANDREAEALES.

ANDREAEACEAE.

Andreaea Ehrh.

A. crassinervia Bruch.—On rocks. CARBON, Stony Creek, *Rau.*

A. petrophila Ehrh.—On dry rocks. CARBON, Stony Creek, *Rau.*

A. Rothii Web. & Mohr.—On rocks. MONROE, Water Gap, *Austin;* CARBON, Stony Creek, *Rau.* [*A. rupestris* Roth.]

ARCHIDIALES.

ARCHIDIACEAE.

Archidium Brid.

A. Ohioense Schimp.—LANCASTER, along the Tucquan Creek, *Porter.* Very rare.

BRYALES.

EPHEMERACEAE.

Ephemerum Hampe.

E. cohaerens Hampe.—NORTHAMPTON, Bethlehem, *Wolle;* BUCKS and PHILADELPHIA, *James;* LANCASTER.

E. crassinervium (Schwaegr.) Hampe.—Old fields. NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* INDIANA, *James.*

E. serratum (Schreb.) Hampe.—BUCKS and CHESTER, Chester Valley, *James.*

E. serratum angustifolium Schimp.—CHESTER, *James.*

E. spinulosum Br. & Sch.—LEHIGH and NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA, Moyamensing, *James.*

PHYSCOMITRELLACEAE.

Physcomitrella Br. & Sch.

P. patens (Hedw.) Br. & Sch.—LANCASTER, *Muhlenberg.*

PHASCACEAE.

Phascum L.

P. cuspidatum Schreb.—Old fields. LEHIGH, *Rau;* NORTHAMPTON, Easton; BUCKS, Morrisville, *James;* PHILADELPHIA, *James;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); BEAVER, *James.*

Sphaerangium Schimp.

S. muticum (Schreb.) Schimp.—Moist fields. LEHIGH and NORTHAMPTON, *Rau;* CHESTER, Coventry, and INDIANA, Derry, *James.*

S. triquetrum Schimp.—On the ground. PHILADELPHIA, Bustleton, *James.*

Astomum Hampe.

A. crispum Hedw.—On the ground. NORTHAMPTON, on the Monocacy, *Rau;* CHESTER (Flora Cestrica).

A. nitidulum Schwaegr.—Old fields. LEHIGH and NORTHAMPTON, *Rau;* CHESTER, Coventry, and INDIANA, Derry, *James.*

A. Sullivantii (Schimp.) Hampe.—Old pastures. NORTHAMPTON, Bethlehem, *Rau;* BUCKS, PHILADELPHIA, INDIANA and BEAVER, *James.*

BRUCHIACEAE.

Pleuridium Brid.

P. subulatum (Huds.) Rab.—WASHINGTON, *Linn* and *Simonton;* NORTHAMPTON and LEHIGH, *Rau.*

Sporledera Hampe.

S. palustris Schimp.—Old fields.—PHILADELPHIA, Moyamensing, and CHESTER, Chester Valley, *James.*

Bruchia Schwaegr.

B. flexuosa (Schwaegr.) C. Muell.—BUCKS, PHILADELPHIA, Germantown, and CHESTER, *James;* LANCASTER.

B. Sullivantii Austin.—Meadows. PHILADELPHIA, *James.*

WEISSIACEAE.

Hymenostylium Brid.

H. curvirostre (Ehrh.) Lindl.—CARBON, Parryville, and LEHIGH, Rockdale, *Rau.* [*Gymnostomum curvirostre* Hedw.]

Mollia Schrank.

M. aeruginosa (Sm.) Lindb.—Crevices of rocks. LEHIGH, *Rau;* NORTHAMPTON, Easton, *James;* BUCKS, Narrowsville; HUNTINGDON, Spruce Creek, *Porter.* [*Gymnostomum rupestre* Schwaegr.]

M. aeruginosa stelligera (Schimp.) Braithw. — LEHIGH, Rockdale, *Wolle.*

M. viridula (L.) Lindl.*—NORTHAMPTON; PHILADELPHIA; DELAWARE and CHESTER, *James;* LANCASTER, *Porter* and *Small;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Bennett.* [*Weissia viridula* (L.) Hedw.]

M. viridula gymnostoides (Brid.) Braithw.—BUCKS, Nockamixon cliffs, *James;* LANCASTER, *Muhlenberg;* NORTHAMPTON, Bethlehem, *Rau* and *Wolle.* [*Mollia Rauana* Austin.]

M. viridula stenocarpa (Muell.)—NORTHAMPTON, Easton, *James.*

Rhabdoweisia Br. & Sch.

R. denticulata (Brid.) Br. & Sch.—On shaded rocks. PIKE, Bushkill Falls, *Porter;* CARBON and NORTHAMPTON, Bethlehem, *Rau;* LAWRENCE, Slippery Rock Creek, *James.*

R. fugax (Hedw.) Br. & Sch.—In crevices of rocks. CARBON, *Rau;* NORTHAMPTON, Bushkill Gap, *Porter;* PHILADELPHIA, Fairmount Park, *James;* MCKEAN, Broadbow, *Burnett.*

Oreoweisia Schimp.

O. serrulata (Funck) Schimp.—On moist rocks. PIKE, CARBON and NORTHAMPTON, *Rau;* BUCKS, Nockamixon cliffs, *James;* FRANKLIN, Mercersburg, *Porter.*

DICRANACEAE.

Onchophorus Brid.

O. Wahlenbergii Brid.—Frequent in swamps, along streams on decaying trunks. MCKEAN, Broadbow, *Burnett.*

**Grimmia controversa* Muhlenberg.

Dicranella Schimp.

D. crispa (Ehrh.) Schimp.—CARBON and LEHIGH, *Rau;* LANCASTER, Dillerville Swamp, *James.*

D. varia (Hedw.) Schimp.—NORTHAMPTON, Easton, *Porter;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Eby.* [*Dicranum varium* Hedw.]

D. rufescens (Dicks.) Schimp.—MONROE, *James;* PHILADELPHIA, Wissahickon, and DELAWARE, Radnor, *James;* LANCASTER and HUNTINGDON, *Porter;* CAMBRIA, Galitzin, *James;* ELK, *McMinn;* LANCASTER, Conewago, *Small.*

D. curvata Schimp.*—LANCASTER, on sandstone, *Porter.*

D. heteromalla (L.) Schimp.—NORTHAMPTON, Easton, *Porter;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER and FRANKLIN, *Porter.*

D. heteromalla orthocarpa (Hedw.) C. Muell.—NORTHAMPTON, Bethlehem, *Rau;* LANCASTER, *Muhlenberg.* [*Dicranum orthocarpum* Hedw.]

Dicranum Hedw.

D. condensatum Hedw.—In sandy soil. LANCASTER and LEBANON, *Muhlenberg;* DAUPHIN, Peter's Mountain, *C. H. Small.* [*D. sabuletorum* R. & C.]

D. elatum Lindb.—On the ground. MONROE, *Porter.* [*D. Drummondii* C. Muell.]

D. flagellare Hedw.—MONROE, *James;* CARBON, *Rau;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, *Small;* HUNTINGDON and BLAIR, *Porter.*

D. fulvum Hook.—PIKE and CARBON, *Rau;* PHILADELPHIA, DELAWARE and CHESTER, Chester Valley, *James;* LANCASTER, Mt. Hope, *Small.*

*No specimens of this species from Pennsylvania have been preserved. Those from the above locality are probably referable to *D. heteromalla*—the form with curved pedicels. [E. G. B.]

D. longifolium Ehrh.—CARBON, *Rau;* MONROE, Mt. Pocono, *James;* CHESTER (Flora Cestrica).

D. majus Turn.—BLAIR, *Porter.* (Very doubtful.—E. G. B.)

D. montanum Hedw.—MONROE, Tobyhanna Mills, *James;* HUNTINGDON, *Porter;* ELK, *McMinn.*

D. Schraderi Web. & Mohr.—BUCKS and NORTHAMPTON, *Rau;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica).

D. scoparium (L.) Hedw.—NORTHAMPTON; BUCKS; PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER; DAUPHIN, *C. H. Small;* CAMBRIA, *James.* Very common.

D. scoparium orthophyllum Brid.—CARBON and LEHIGH, *Rau.*

D. scoparium rupestre Sull. & Lesq. — Mountain regions, *Rau.*

D. undulatum Ehrh.—NORTHAMPTON and BUCKS, *Rau;* CHESTER, Chester Valley, *James;* LANCASTER, FULTON and HUNTINGDON, *Porter.*

D. viride Schimp.—PIKE, *Rau;* CAMBRIA, Wiltmore, *James.*

Dicranodontium Br. & Sch.

D. longirostre (Starke) Schimp.—On sandstone rocks, usually sterile; fertile specimens from MCKEAN, Toad Hollow, near Bradford, *Burnett.*

Trematodon Mich.

T. ambiguus (Hedw.) Hornsch.—PIKE, CARBON and LUZERNE, Hazelton, *Rau;* CAMBRIA, Cresson, *James* and *Porter.*

T. longicollis Michx.—PHILADELPHIA, Tacony, *James.*

LEUCOBRYACEAE.

Leucobryum Hampe.

L. glaucum (L.) Schimp.—On the ground in woods. MONROE, *James;* LUZERNE, *McMinn;* NORTHAMPTON; PHILA-

DELPHIA; DELAWARE and CHESTER, *James;* LANCASTER, *Small.* Common throughout, but rare in fruit.

L. albidum (Brid.) Lindb.—On stumps or the ground. BERKS, *Hiester;* PHILADELPHIA, DELAWARE and CHESTER, Chester Valley, *James;* LANCASTER and HUNTINGEON, *Porter.* [*L. minus* Sull.]

FISSIDENTACEAE.

Fissidens Hedw.

F. adiantoides (L.) Hedw.—NORTHAMPTON, BUCKS and LANCASTER, *Muhlenberg, Porter;* HUNTINGDON, *Porter;* CAMBRIA, Cresson, *James* and *Porter;* WESTMORELAND, *James;* LEHIGH, *Rau.*

F. bryoides (L.) Hedw.—NORTHANPTON, near Easton, *Garber;* PHILADELPHIA and CHESTER, *James;* ELK, *James;* LANCASTER, *Muhlenberg.*

F. hyalinus Wils. & Hook.—On a clay bank in a ravine. WASHINGTON, *Linn* and *Simonton,* September and October, 1892, 1894, 1898. This rare moss had only been collected in Ohio before.

F. incurvus Starke.—NORTHAMPTON, Easton, *Garber;* Bushkill Gap, PHILADELPHIA, *James;* LANCASTER, *Muhlenberg;* LEHIGH, *Rau.*

F. minutulus Sull.—NORTHAMPTON, Easton, *Garber* and *Porter;* MONROE, *James;* PHILADELPHIA, on the Wissahickon, *James;* CHESTER (Flora Cestrica); LANCASTER, *Muhlenberg;* Chestnut Hill, *Porter;* LEHIGH, *Rau.*

F. osmundioides (Sw.) Hedw.—PIKE and LEHIGH, *Rau;* MONROE, Water Gap, *James;* NORTHAMPTON, near Easton.

F. subbasilaris Hedw.—CARBON, Onoko Glen, *Rau;* NORTHAMPTON, Easton; LANCASTER, *Muhlenberg;* INDIANA and WESTMORELAND, *James.*

F. taxifolius (L.) Hedw.—NORTHAMPTON, Easton; PHILADELPHIA and CHESTER, *James.*

Octodiceras Brid.

O. Julianum (Savi) Brid.—In rocky pools and streams. LEHIGH, *Rau;* NORTHAMPTON, near Easton, *Porter;* PHILADELPHIA, *James;* LANCASTER and HUNTINGDON, *Porter.* [*Conomitrium Julianum* (Savi) Mont.]

Bryoxiphium Mitt.

B. Norvegicum (Brid.) Mitt. — LAWRENCE, Slippery Rock Creek, *Lesquereux.* [*Eustichia Norvegica* Brid.]

SELIGERIACEAE.

Seligera Br. & Sch.

S. calcarea (Dicks.) Br. & Sch.—HUNTINGDON, Warrior's Ridge, *Porter.*

S. recurvata (Hedw.) Br. & Sch.—On limestone, in woods. NORTHAMPTON, Easton, *James* and *Porter.*

DITRICHACEAE.

Ceratodon Brid.

C. purpureus (L.) Schimp.—NORTHAMPTON, PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Muhlenberg.* Common everywhere in the State.

Trichostomum Hedw.

T. cylindricum (Bruch) C. Muell.—At base of cliffs in woods, on moist rocks, usually sterile. HUNTINGDON, Alexandria, *Porter;* NORTHAMPTON, Bear Creek, *Wolle;* LEHIGH, Onoko Glen, *Rau;* CHESTER, Coventry, December 30, 1850, fruiting on old trunks, *James.* [*Didymodon cylindricus* Br. & Sch.]

Ditrichum Timm.

(*Leptotrichum* Hampe.)

D. pallidum (Schreb.) Hampe.—On the ground and margins of woods. LEHIGH and NORTHAMPTON, *Rau;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, Smithville, *Small.*

D. tortile (Schrad.) Lindb.—In dry soil. LEHIGH and NORTHAMPTON, *Ran;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Porter.*

D. tortile pusillum (Hedw.) Braithw.—PHILADELPHIA, Bustleton and Holmesburg, *James.*

D. vaginans (Sulliv.) Hampe.—NORTHAMPTON, *Rau;* MCKEAN, *Burnett.*

POTTIACEAE.

Gymnostomum Hedw.
(*Pottia* Ehrh.)

G. truncatula (L.) Hedw.—Meadows among grass. PHILADELPHIA, Moyamensing, *James.* [*Pottia truncatula* (L.) Lindb.]

Barbula Hedw.

B. convoluta Hedw.—NORTHAMPTON, Easton, *Porter;* LYCOMING, *McMinn;* LAWRENCE, Enon Valley, *James.*

B. fallax Hedw.—NORTHUMBERLAND and MONROE, Analomink Creek, *James;* NORTHAMPNON, Bingen, *Rau;* Easton, *Porter;* BUCKS, Narrowsville, *James.*

B. fallax brevifolia Schultz.—MONROE, Analomink Creek, *James.*

B. recurvifolia Schultz. — CUMBERLAND, Canadaguinnet Creek, *Small.*

B. rubella (Hoffm.) Mitt.—CARBON, Rockdale, *Wolle.* [*Didymodon rubellus* Br. & Sch.]

B. unguiculata (Huds.) Hedw.—NORTHAMPTON, Bethlehem, *Rau;* Easton, *James;* PHILADELPHIA, DELAWARE and

B. cylindrica (Br. & Sch.) Sch. has been recorded as growing on old wood and twigs. CARBON and LEHIGH, *Rau;* CAMBRIA, Cresson, *James*, but it is probably a mistake.

CHESTER, *James;* LANCASTER, *Small;* YORK, HUNTINGDON and CENTRE, *Porter;* WESTMORELAND and BUTLER, *James.*

B. unguiculata apiculata Br. & Sch.—LANCASTER, *Muhlenberg.*

B. unguiculata lanceolata (Hedw.)—LANCASTER, *Muhlenberg.*

B. unguiculata stricta (Hedw.)—LANCASTER, *Muhlenberg.*

Tortula Hedw.

T. humilis (Hedw.) Brid.—MONROE, *James;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, Fairmount Park, DELAWARE and CHESTER, *James;* LANCASTER, river hills, *Porter;* NORTHUMBERLAND and CAMBRIA, *James.* [*Barbula humilis* Hedw.* *Barbula caespitosa* Schwaegr.]

T. muralis (L.) Hedw.—NORTHAMPTON, Easton, *Porter;* LANCASTER, Levan's Mill, *Eby.*

T. papillosa Wils.—PHILADELPHIA, Bustleton, and BLAIR, Tyrone, *James.* [*Barbula papillosa* C. Muell.]

T. ruralis (L.) Ehrh.—BUCKS, Nockamixon cliffs, and NORTHUMBERLAND, *James.* [*Barbula ruralis* Hedw.]

T. tortuosa (L.) Ehrh.—NORTHAMPTON, *Garber;* PIKE, *Rau;* CARBON, Parryville, *Rau;* BUCKS, Nockamixon cliffs. *James;* LANCASTER, *Porter;* CAMBRIA, Cresson, *James,* [*Barbula tortuosa* Web. & Mohr.]

Desmatodon Brid.

D. plinthobius Sull. & Lesq.—On a limestone rock near Lancaster, *Porter.*

D. Porteri James.—On limestone rocks. NORTHAMPTON, College Hill, *Porter;* Bethlehem, *Rau.*

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*Type locality Lancaster, *Muhlenberg.* Type specimens representing both names are preserved in the Hedwig herbarium at Geneva.

Didymodon Hedw.

D. cylindricus (Bruch) Br. & Sch.—On old trunks. MONROE, Delaware Water Gap, *Rau;* CARBON, Onoko Glen, *Austin;* LEHIGH, Bear Creek, *Wolle;* CHESTER, Coventry, *James.*

D. riparius (Aust.) Kindb.—MONROE, Pocono Plateau, *Austin;* LEHIGH and NORTHAMPTON, Bethlehem, *Rau.* [*Pottia riparia* Aust.]

D. rubellus (Hoffm.) Br. & Sch.—On wet rocks. Without locality, Sull. & Lesq. Musci Bor. Am. Exsicc. no. 106.

GRIMMIACEAE.

Grimmia Ehrh.

G. campestris Burchell—On rocks. LANCASTER, Cedar Hill, *Porter;* BLAIR, Tyrone, *James.* [*G. leucophaea* Grev.]

G. Donniana Smith.—In crevices of rocks. NORTHAMPTON, Bushkill Gap, *James* and *Porter.* [*G. obtusa* Schwaegr.]

G. Olneyi Sull.—On exposed rocks on river shores. NORTHAMPTON, Easton, *Porter;* PHILADELPHIA and CHESTER, French Creek, *James;* LANCASTER, *Small.*

G. pilifera Beauv.—On exposed dry rocks. NORTHAMPTON, Bethlehem, *Rau;* DELAWARE and CHESTER, *James;* LANCASTER, *Muhlenberg;* Conewago, *Small.* Very common. [*G. Pennsylvanica* Schwaegr.]

Schistidium Brid.

S. ambiguum Sull.—On rocks. NORTHAMPTON, Easton, *James.* [*Grimmia ambigua* Sull.]

S. apocarpum (L.) Br. & Sch.—On rocks. LEHIGH, *Rau;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA and CHESTER, *James;* LANCASTER and CUMBERLAND, *Small;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.* [*Grimmia apocarpa* (L.) Hedw.]

S. confertum Br. & Sch.—On rocks. PHILADELPHIA, on the

Wissahickon and Pennypack Creeks, *James;* LANCASTER, Safe Harbor, *Porter;* WASHINGTON, *Linn* and *Simonton.* [*Grimmia conferta* Bruch.]

S. alpicola rivulare (Brid.)—Wahlb. On rocks. LANCASTER and CUMBERLAND, *Small.* [*Grimmia rivularis* Brid.]

Racomitrium Brid.

R. aciculare (L.) Brid. On wet rocks. CARBON, Mauch Chunk, *James;* Stony Creek (fertile), *Rau;* CAMBRIA, *James.* [*Grimmia acicularis* C. Muell.]

R. microcarpum (Schrad.) Brid.—On wet rocks. CARBON, Stony Creek, *Rau;* PHILADELPHIA, Fairmount Park, *James.* [*Grimmia microcarpa* (Gmel.) Lindb. *R. Sudeticum* Br. & Sch.]

Glyphomitrium Brid.

[*Ptychomitrium* Br. & Sch.]

G. incurvum (Schwaegr.) E. G. Britton, n. comb.—On rocks and stones. NORTHAMPTON, Easton, *Porter;* Bethlehem, *Rau;* PHILADELPHIA and DELAWARE, *James;* LANCASTER, Conewago, *Small.* [*Brachystelium incurvum* (Schwaegr.) C. Muell.]

Hedwigia Ehrh.

H. albicans (Web.) Lindb.—On exposed rocks. NORTHAMPTON, *Porter;* PHILADELPHIA, *James;* DELAWARE (Smith's Catalogue); CHESTER, (Flora Cestrica); LANCASTER, *Porter.* Common throughout the State. [*H. ciliata* Ehrh.]

H. albicans leucophaea Schimp.—DAUPHIN, Peter's Mountain, *C. H. Small;* HUNTINGDON, Stone Creek, *Porter;* WESTMORELAND, *James.*

ORTHOTRICHACEAE.

Anoectangium Hedw.*

[*Amphoridium* Schimp.]

A. **Lapponicum** Hedw.—In crevices of shaded rocks. MONROE, Analominck Creek, *James;* PIKE and CARBON, *Rau;* NORTHAMPTON, Easton, and BUCKS, Narrowsville, *Porter;* PHILADELPHIA, on the Wissahickon, *James;* FRANKLIN, Mercersburg, and HUNTINGDON, *Porter.*

A. **Mougeottii** (Schimp.) Lindb.—On shaded rocks. MONROE, Delaware Water Gap, *James, Garber;* PIKE and CARBON, *Rau;* BUCKS, Nockamixon Cliffs, *Porter;* PHILADELPHIA, Fairmount Park, *James.*

Drummondia Hook.

D. **clavellata** (L.) Hook.—On trees. NORTHAMPTON, PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Small;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

Weissia Ehrh.

[*Ulota* Mohr.]

W. **Americana** (Beauv.) Lindb.—On dry rocks. NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA and CHESTER, *James;* LANCASTER and HUNTINGDON, *Porter;* PIKE and LEHIGH, *Rau;* LEBANON, Penryn, *Small;* CAMBRIA, Cresson, *James.* [*Ulota Hutchinsiae* (Beauv.) Schimp.]

W. **coarctata** (Beauv.) Lindb.—On trees. MONROE, Mt. Pocono, *James;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, Conewago, *Small;* CENTRE, Bear Meadows. *Porter;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.* [*Ulota Ludwigii* (Beauv.) Brid.]

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* *Anoectangium Peckii* Sull., credited to MONROE, Delaware Water Gap, *Austin*, proves to be a sterile form of *Mollia aeruginosa*, and *A. Rauii* Aust., CARBON, *Rau*, is a depauperate sterile form of *Dicranum longifolium.*

W. ulophylla Ehrh.—On trees. MONROE, Tobyhanna, *Garber;* Pocono, *James;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* CHESTER (Flora Cestrica); LANCASTER, Chickies, LEBANON and CENTRE, Bear Meadows, *Porter;* CLEARFIELD, *James.* [*Ulota crispa* Brid.]

W. ulophylla crispula (Bruch) Hammar.—On trees. PIKE, *Rau;* MONROE, Pocono, and PHILADELPHIA, *James;* MCKEAN, *Burnett.*

Orthotrichum Hedw.

O. cupulatum Hoffm.—On rocks. NORTHAMPTON, Easton, and BUCKS, Narrowsville, *James.*

O. cupulatum Peckii (Aust.) Sull.—On dry limestone rocks. NORTHAMPTON, Easton, *Porter.*

O. Porteri Aust.—On dry limestone rocks. NORTHAMPTON and LANCASTER, *Porter;* CAMBRIA, Cresson, *James.* [*O. cupulatum Porteri* (Aust.) Sull.]

O. obtusifolium Schrad.—MONROE (on *Populus candicans*) *Mrs. Britton;* NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA, on Lombardy poplars below Bustleton, *James.*

O. Ohioense Sull. & Lesq.—LEHIGH and NORTHAMPTON, Bethlehem, *Rau.*

O. Ohioense citrinum (Aust.) Lesq. & James.—On trees. NORTHAMPTON, Bethlehem, *Rau;* LANCASTER, *Porter;* WESTMORELAND, *James.*

O. pusillum Mitt.—On trees, poplars mostly. PHILADELPHIA, Kingsessing, Fairmount Park, Bustleton, *James.* [*O. psilocarpum* James.]

O. pumilum Americanum Venturi.—On trees. NORTHAMPTON, *Porter;* PHILADELPHIA, *James;* LANCASTER, *Porter.*

O. Schimperi Hammar.—On trees. LANCASTER, Safe Harbor, Conewago and Tucquan, *Small;* WASHINGTON, *Linn* and *Simonton.*

O. sordidum Sull. & Lesq.—On trees. MONROE, Mt. Pocono, *Garber;* LANCASTER, Conewago, *Small.*

O. Braunii Br. & Sch.—On apple trees. LEHIGH and NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, Chestnut Hill, *Porter;* NORTHUMBERLAND, *James;* MCKEAN, *Burnett.* [*A. strangulatum* Sull.]

O. striatum (L.) Hedw.—On trees. MONROE, Pocono, and BUCKS, Narrowsville, *James.* [*O. leiocarpum* Br. & Sch.]

ENCALYPTACEAE.

Leersia Hedw.

[*Encalypta* Schreb.]

L. contorta (Wolf) Lindb.—On limestone rocks. MONROE, *James;* LEHIGH, *Rau;* NORTHAMPTON, Bethlehem; CAMBRIA, Cresson, *James.* Sterile. [*Encalypta streptocarpa* Hedw.]

GEORGIACEAE.

Georgia Ehrh.

[*Tetraphis* Hedw.]

G. pellucida (L.) Rabenh.—On rotten wood. PIKE, LEHIGH and NORTHAMPTON, *Rau;* CHESTER; LANCASTER, *Small;* FRANKLIN; MONROE, Mt. Pocono and Tobyhanna, Buckhill Falls, *Small;* MCKEAN, *Burnett.*

DISCELIACEAE.

Discelium Brid.

D. nudum Brid.—On clayey ground. NORTHAMPTON, Bethlehem, *Rau*, Bingen, *F. Wolle.*

FUNARIACEAE.

Physcomitrium Brid.

P. immersum Sull.—Old pastures. PHILADELPHIA, Moyamensing, *James;* LANCASTER, *Muhlenberg;* DAUPHIN, Harrisburg, *Small.*

P. turbinatum (Michx.) Brid.—In fields among tufts of grass. LEHIGH, *Rau;* NORTHAMPTON, Easton; PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Muhlenberg*, *Small.* MCKEAN, Bradford, *Burnett.* Not rare. [*Gymnostomum pyriforme* Muhl.]

Aphanorhegma Sull.*

A. serratum (Hook. & Wils.) Sull.—Damp cultivated ground. LEHIGH, *Rau;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER and FRANKLIN, Mercerburg, *Porter.* MCKEAN, on alluvial deposits, Bennett Brook and in ashes near railroad, Bradford, *Burnett.*

Funaria Schreb.

F. Americana Lindb.—On the ground, BUCKS, Narrowsville, *James;* LANCASTER, *Muhlenberg.*

F. flavicans Michx.—On the ground. LEHIGH, *Rau;* NORTHAMPTON, Easton, *Small;* PHILADELPHIA, *James;* LANCASTER, *Muhlenberg*, *Small;* LAWRENCE, *James.*

F. hygrometrica (L.) Sibth.—Bare places on the ground. NORTHAMPTON, BUCKS, PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Small.* MCKEAN, *Burnett.* Very common.

F. hygrometrica calvescens Schimp.—CARBON, *Rau.*

F. hygrometrica patula Br. & Sch.—NORTHAMPTON, Bethlehem, *Rau.*

BRYACEAE.

Leptobryum Wils.

L. pyriforme (L.) Wils.—On damp ground and old mortar of walls. NORTHAMPTON, Easton and Bethlehem; PHILADEL-

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**Aphanorhegma serratum* ♀ × *Physcomitrium turbinatum* ♂. (See Bull. Torr. Bot. Club, 22: 65. 1895.) Mr. Burnett collected this interesting hybrid at Tuna Valley, about three miles north of Bradford, McKean county, on ground near the Erie Railroad tracks, where old ties had been burned, on December 12th, 1896.

PHIA, Wissahickon Turnpike, *James;* CHESTER, New Garden, *Michener;* LANCASTER, *Muhlenberg*, in herb., *Porter;* CAMBRIA, Chast Creek, *James.*

Bryum L.

B. albicans (Wahl.) Brid.—Wet, springy ground. LEHIGH and NORTHAMPTON, *Rau;* PHILADELPHIA, Fairmount Park and Laurel Hill, *James;* CHESTER, New Garden (fruiting), *Michener;* MCKEAN (fruiting), *Burnett.*

B. annotinum Hedw.—On gravelly soil. LEHIGH, *Rau;* BEAVER, *Lesquereux.*

B. argenteum L.—On dry soil. Common everywhere.

B. atropurpureum Wahl.—Old fields. NORTHAMPTON, Easton, *James;* Bethlehem, *Fiot;* PHILADELPHIA, Fairmount Park, *James;* YORK, *Porter.*

B. bimum Schreb.—Damp soil. NORTHAMPTON, Bethlehem, *James;* BUCKS, *Rau;* LANCASTER, *Small;* CAMBRIA and INDIANA, *James;* MCKEAN, *Burnett.*

B. caespiticium L.—Dry soil and old walls. NORTHAMPTON, *Easton;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Muhlenberg.* Very common.

B. capillare L.—On the ground and on shaded rocks. MONROE, Cresco, *Porter;* Delaware Water Gap, *Porter;* CARBON, Mauch Chunk, *James;* NORTHAMPTON; BUCKS, Narrowsville *Porter;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett;* PHILADELPHIA and CHESTER, Chester Valley (fruiting), *James;* YORK, Wrightsville, *Small.*

B. cirrhatum Hoppe & Hornsch.—On gravelly soil. LANCASTER, Safe Harbor, *James;* ELK, McMinn.

B. crudum Schreb.—On the ground. LEHIGH, *Rau;* BUCKS, Narrowsville, *Porter;* LANCASTER, *Muhlenberg*, *Porter.*

B. cyclophyllum (Schwaegr.) Br. & Sch.—Wet places. MONROE, Tobyhanna Mills, *James.* Very rare.

B. elongatum Dicks.—On rocks. McKean, Bradford, *Burnett.*

B. intermedium Brid.—Wet places. Monroe, Mt. Pocono, *James;* Northampton, Bethlehem and Easton, *James;* Bucks, Narrowsville, *Porter;* Lancaster, Safe Harbor, and Cambria, *James.*

B. pulchellum Hedw.—On gravelly soil. Monroe, Tobyhanna, *James;* Lehigh, *Rau;* Northampton, *Fiot;* Bucks, Philadelphia and Chester, *James;* Lancaster, *Muhlenberg;* McKean, *Burnett.* [*B. Lescurianum* Sull.]

B. Muhlenbeckii Br. & Sch.—Damp situations. Carbon, *Rau.*

B. nutans Schreb.—Wet places. Northampton, Bethlehem, *Fiot;* Easton, *James;* Philadelphia, Manayunk, *James;* Lancaster, Conewago, on trap rock, *Small;* Northumberland, *James;* Washington, *Linn* and *Simonton;* McKean, *Burnett.*

B. proliferum (L.) Sibth.—In woods about the roots of trees. Pike, *Garber;* Monroe, Pocono Mountain, *Small;* Northampton, Philadelphia, Byberry, Delaware and Chester, *James;* Lancaster, *Muhlenberg*, *Porter;* Luzerne, Lily Lake, *Small;* Washington, *Linn* and *Simonton;* McKean, *Burnett.* Common, but seldom fruiting. [*B. roseum* Schreb.]

B. torquescens Br. & Sch.—On the ground. Bucks, Narrowsville, and Cambria, Cresson, *James.*

B. ventricosum Dicks.—Wet rocks. Monroe, Water Gap, *Garber;* Bucks, *Rau*, Narrowsville, *James;* Lancaster, *Muhlenberg;* Cambria, Cresson, *James.* [*B. pseudotriquetrum*, Schwaegr.]

MNIACEAE.

Astrophyllum Neck.

[*Mnium* L., in part.]

A. ciliare (Grev.) Lindb.—Damp situations. Monroe, Delaware Water Gap; Lancaster, Smithville and Mountain

Island, *Small;* WASHINGTON, *Linn* and *Simonton;* McKEAN, *Burnett.*

A. cinclidioides (Blytt) Lindb.—In moist places. McKEAN, West Branch, *Burnett.* [*Mnium cinclidioides* (Blytt) Huebn.]

A. cuspidatum (L.) Lindb.—In swamps and on wet rocks. NORTHAMPTON, PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Porter.* Common. [*Mnium affine* Bland.]

A. cuspidatum elatum (Br. & Sch.)—CAMBRIA, Cresson, *James.*

A. cuspidatum rugicum Laur.—NORTHAMPTON, Easton, MONROE, Water Gap, *James.*

A. Drummondii (Br. & Sch.) Lindb.—Damp places. LYCOMING, near Williamsport, *McMinn.*

A. hornum (L.) Lindb.—Damp places. PIKE, CARBON and LEHIGH, *Rau;* MONROE, Mt. Pocono, *E. G. Britton;* Buckhill Falls, *Garber;* NORTHAMPTON, Easton; PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Porter;* CAMBRIA, *James.*

A. lycopodioides (Hook.) Lindb.—Wet places. PIKE, LEHIGH and NORTHAMPTON, *Rau;* LANCASTER, Mill Creek, *Porter;* BLAIR, *C. E. Smith;* ELK, *McMinn.*

A. marginatum (Dicks.) Lindb.—Damp situations. MONROE and NORTHAMPTON, *Porter;* BUCKS, *Rau;* PHILADELPHIA, *James;* LANCASTER and BLAIR, *Porter;* CAMBRIA, *James;* ELK, *McMinn;* WASHINGTON, *Linn* and *Simonton.* [*Mnium serratum* Laich.]

A. medium (Br. & Sch.) Lindb.—In very wet soil, bordering streams or rivulets, on stones subject to overflow, and on logs much decayed and partially immersed. MONROE, *James;* McKEAN, *Burnett.*

A. orthorrynchum (Br. & Sch.) Lindb.—MONROE, *James;* NORTHAMPTON, *Easton;* BLAIR, *Porter.*

A. punctatum (L.) Lindb.—Wet places. PIKE, MONROE, CARBON, NORTHAMPTON and LEHIGH, *Rau;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, FRANKLIN and HUNTINGDON, *Porter;* ELK, *McMiun.*

A. punctatum elatum (Schimp.)—MONROE, Delaware Water Gap, *E. G. Britton;* LANCASTER, Mt. Hope, *Small;* NORTHAMPTON, Easton, *Porter;* MCKEAN, Bradford, *Burnett.*

A. riparium (Mitt.) Lindb.—Along rivers. Pennsylvania, *Muhlenberg.*

A. rostratum (Schrad.) Lindb.—Wet rocks. LEHIGH, *Rau;* BUCKS, Narrowsville, LYCOMING, *McMinn;* FRANKLIN and CAMBRIA, *James.*

A. stellare (Reichard) Lindb.—Damp places. MONROE, *James;* NORTHAMPTON, *Rau* and *Porter;* BUCKS, Narrowsville, *James;* PHILADELPHIA and CHESTER, *James;* MCKEAN, Bradford, *Burnett*, usually sterile.

A. sylvaticum Lindb.—Damp places. NORTHAMPTON, Easton, PHILADELPHIA and CHESTER, *James;* LANCASTER, *Muhlenberg*, *Small;* MCKEAN, *Burnett.* Very common. [*Mnium cuspidatum* Hedw.]

Arrhenopterum Hedw.

A. heterostichum Hedw.—In shaded places. NORTHAMPTON, PHILADELPHIA and CHESTER, *James;* Lehigh, *Rau;* LANCASTER, Pleasant Grove, *Carter;* WASHINGTON, *Linn* and *Simonton.* Type locality, Lancaster, *Muhlenberg.* [*Aulacomnium heterostichum* (Brid.) Br. & Sch.]

Mnium Dill.

[*Aulacomnium* Schwaegr.]

M. palustre L.—Swampy places. MONROE, Tobyhanna Mills and Buckhill Falls, *Small;* NORTHAMPTON, *Rau;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, Safe Harbor; WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.* [*Aulacomnium palustre* (L.) Schwaegr.]

MEESIACEAE.

Meesia Hedw.

M. triquetra (L.) Aongstr.—NORTHAMPTON, *Rau.* [*M. tristicha* Funck.]

BARTRAMIACEAE.

Bartramia Hedw.

B. ithyphylla Brid.—In shaded places. FAYETTE, Layton's, *S. W. Knipe.* Rare.

B. Oederi (Gunn.) Sw.—Rocky banks. PIKE and LEHIGH, *Rau;* LANCASTER, *Muhlenberg;* MONROE, Water Gap, and BUCKS, Nockamixon Cliffs, *James.* [*B. grandiflora* Schwaegr.]

B. pomiformis (L.) Hedw.—On moist banks. MONROE and NORTHAMPTON, *Porter;* PIKE, *Rau;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER and FRANKLIN, *Porter.* Common.

B. pomiformis crispa (Sw.) Br. & Sch.—On shaded ground. MCKEAN, *Burnett;* PIKE, *Rau;* MONROE, Delaware Water Gap, *Austin.*

Philonotis Brid.

P. calcarea Schimp.—HUNTINGDON, Warrior's Ridge, *Porter.*

P. fontana (L.) Brid.—MONROE, Delaware Water Gap, *James;* NORTHAMPTON, *Rau;* BUCKS, Nockamixon Cliffs, PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Small;* LYCOMING, *Porter.*

P. Marchica (Willd.) Brid.—NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA, *James;* LANCASTER, *Muhlenberg;* Slippery Rock Creek, *Lesquereux.* [*Bartramia Muhlenbergii* Schwaegr.]

P. radicalis (Beauv.) Brid.—LEHIGH, Rockdale, and BUCKS, Nockamixon Cliffs, *Wolle.*

TIMMIACEAE.

Timmia Hedw.

T. cucullata Michx.—NORTHAMPTON, *Porter* and *Rau;* LANCASTER, *Porter;* EASTON, *Garber* and *Porter;* MCKEAN, *Burnett.* [*T. megapolitana* Hedw.]

POLYTRICHACEAE.

Catharinea Ehrh.

[*Atrichum* Beauv.]

C. angustata Brid.—In woods. NORTHAMPTON, *Porter;* PHILADELPHIA and CHESTER, *James;* LANCASTER, *Small;* WASHINGTON, *Linn* and *Simonton.* Common throughout.

C. crispa James.—On clay. MONROE, Pocono Mountain, *E. G. Britton.*

C. undulata (L.) Web. & Mohr.—In woods. NORTHAMPTON, PHILADELPHIA and CHESTER, *James;* LANCASTER.

Polytrichum L.

P. commune L.—In open woods. Common everywhere in the State.

P. juniperinum Willd.—LEHIGH, *Rau;* NORTHAMPTON, *Porter;* PHILADELPHIA, *James;* CHESTER (Flora Cestrica); LANCASTER, Welsh Mountains, *Small;* LYCOMING, *McMinn;* MCKEAN, *Burnett;* WASHINGTON, *Linn* and *Simonton.*

P. Ohioense Ren. & Card.—NORTHAMPTON, *Porter;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER and HUNTINGDON, *Porter;* MCKEAN, *Burnett.* Not rare. [*P. formosum* Sull.]

P. piliferum Schreb.—MONROE, Mt. Pocono and Water Gap, *Knipe;* MCKEAN, *Burnett;* PHILADELPHIA and CHESTER, *James;* LANCASTER, *Porter;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.* [*P. Pennsylvanicum* Hedw. Type locality, Lancaster, *Muhlenberg*:]

Pogonatum Beauv.

P. alpinum (L.) Roehl.—On rocks or soil. MONROE, Buckhill Falls and Canadensis, *Porter;* CHESTER, Chester Valley, *James.*

P. tenue Menz.—On the ground, in bare places. NORTHAMPTON; *Porter;* PHILADELPHIA and CHESTER, *James;* LANCASTER and FRANKLIN, *Porter.* Common elsewhere.

BUXBAUMIACEAE.

Buxbaumia Haller.

B. aphylla Haller.—On the ground in open woods. MONROE, Mount Pocono, *Porter;* Water Gap, *Knipe;* NORTHAMPTON, Bushkill Gap, *Garber;* LEHIGH, *Rau;* HUNTINGDON, *Boecking;* CAMERON, *Burnett.*

Webera Ehrh.

W. sessilis (Schmidt) Lindb.—On the ground in dry woods. LEHIGH, *Rau;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* DELAWARE and CHESTER, *James;* LANCASTER, *Muhlenberg;* Chickies, *Porter;* WAYNE, *Garber;* MCKEAN, *Burnett.* [*Diphyscium foliosum* Mohr.]

FONTINALACEAE.

Dichelyma Myrin.

D. capillaceum (Dicks.) Br. & Sch.—On bushes subject to overflow of streams. MONROE, Pocono and Tobyhanna, *Small;* LEHIGH, *Rau;* CHESTER, Chester Valley, *James;* MONROE.

D. pallescens Br. & Sch.—Attached to the bases of shrubs along water courses. MONROE, Tobyhanna Mills, *James;* MCKEAN, Bradford, *Burnett.*

Fontinalis L.

F. antipyretica gigantea Sull.—In rivulets and pools. PIKE, *Rau;* MONROE, Pocono, *Porter;* NORTHAMPTON, Wind Gap, *Green;* PHILADELPHIA, *James;* DELAWARE, *Smith;* LANCASTER, Georgetown, *Porter;* BLAIR and CAMBRIA, *James;* MCKEAN, *Burnett.*

F. biformis Sull.—In streams. PIKE, *Rau;* LANCASTER, *Small;* MCKEAN, *Burnett.*

F. Dalecarlica Br. & Sch.—Attached to stones in running water. PIKE, CARBON and LEHIGH, *Rau;* MONROE, Mt. Pocono, PHILADELPHIA, DELAWARE and CHESTER, Chester Valley, *James;* LANCASTER, Martic Forge, *Porter*, Mt. Hope, *Small;* CHESTER, Bear Meadows, *Porter.*

F. Lescurii Sull.—In rivulets. PIKE, *Rau;* MONROE, Mt. Pocono and the Water Gap, *James;* HUNTINGDON, *Porter;* MCKEAN, *Burnett.*

F. Novae-Angliae Sull.—In springs. NORTHAMPTON and PIKE, *Rau;* HUNTINGDON, Spruce Creek, *Porter.*

CRYPHAEACEAE.

Leucodon Schwaegr.

L. brachypus Brid.—On the bark of trees. PIKE, *Rau;* MONROE, Pocono, *Porter;* CHESTER, Coventry, *James;* CAMBRIA, Cresson, *Porter* and *James;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

L. julaceus (Hedw.) Sull.—On trunks of trees. MONROE, Mt. Pocono, *Porter;* NORTHAMPTON, Bethlehem, *Rau*, Easton, *Porter;* PHILADELPHIA, Bartram's Garden, Fairmount Park, Manayunk, Byberry, *James;* DELAWARE, *Smith;* CHESTER (Flora Cestrica); LANCASTER, Cedar Hill, *Porter;* CAMBRIA and INDIANA, *James;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

L. julaceus stolonifera Aust.—LANCASTER, Octorara Creek, *Small.*

NECKERACEAE.

Homalia Brid.

H. Jamesii Sch.—On rocks. PIKE, *Rau.* Very rare.

Eleutera Beauv.

[*Neckera* Hedw.]

E. pennata (L.) Stuntz.—On trunks of trees. MONROE, Pocono, *E. G. Britton;* PIKE and LEHIGH, *Rau;* PHILADEL-

PHIA, Fairmount Park; CHESTER (Flora Cestrica); LANCASTER, Mount Hope, FRANKLIN, Mercersburg, and CAMBRIA, Cresson, *Porter;* MCKEAN, *Burnett.* Not rare in the mountains.

Forsstromia Lindb.

[*Leptodon* Mohr.]

F. trichomitria (Hedw.) Lindb.—On trunks of trees and occasionally on rocks. PIKE, *Rau;* MONROE, Pocono and Water Gap, *James;* NORTHAMPTON, *Rau;* PHILADELPHIA, Fairmount Park and Byberry, *James;* Delaware, *Smith;* CHESTER (Flora Cestrica); LANCASTER, Tucquan, *Small;* MCKEAN, *Burnett.*

FABRONIACEAE.

Fabronia Raddi.

F. octoblephraris (Schleich.) Schwaegr.—On trees. NORTHAMPTON, Bethlehem, *Wolle;* PHILADELPHIA, Bustleton, *James.*

F. Ravenellii Sull.—On trees. NORTHUMBERLAND and PHILADELPHIA, above Manayunk, *James;* FRANKLIN, Mercersburg, *Porter.*

Anacamptodon Brid.

A. splachnoides (Fröl.) Brid.—On trunks of trees and old stumps, around knot-holes full of water, at base of old trees and fallen logs, especially beech; also on decaying shelves of *Polyporus.* LEHIGH and NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA, Wissahickon, *James;* INDIANA, *James;* LANCASTER, *Muhlenberg;* MCKEAN, Bradford, *Burnett;* WASHINGTON, *Linn* and *Simonton.* [*Campylodontium hypnoides* Schwaegr.]

LESKEACEAE.

Myurella Br. & Sch.

M. Careyana Sull.—In crevices of rocks. PIKE, CARBON and LEHIGH, *Rau;* MONROE, Analomink Creek, *James;* NORTHAMPTON, Easton, BUCKS, Narrowsville, LANCASTER, Cedar

Hill, FRANKLIN, Mercersburg, and HUNTINGDON, Alexandria, *Porter.*

Thelia Sull.

T. asprella (Schimp.) Sull.—On the roots of trees. MONROE, Tobyhanna Mills, *James;* NORTHAMPTON, Easton Cemetery, *Porter;* PHILADELPHIA, Wissahickon, DELAWARE and CHESTER, Chester Valley, *James;* LANCASTER, Conewago and Mount Hope, *Small;* YORK, *Small;* MCKEAN, Bradford, *Burnett.*

T. hirtella (Hedw.) Sull.—On the bark of trees. NORTHAMPTON, Easton, *Porter;* BUCKS, Morrisville, PHILADELPHIA, Fairmount Park, and DELAWARE, Radnor, *James;* LANCASTER, *Porter;* WESTMORELAND, *James.*

T. Lescurii Sull.—On flat rocks. MONROE, Water Gap, *Austin;* BUCKS, *Rau.*

Fabroleskea Best.

F. Austini (Sull.) Best.—On *Juniperus Virginianus.* LANCASTER, Dillerville Swamp, *Small;* MONROE, Water Gap, *Austin;* NORTHAMPTON, Bethlehem, *Rau* and *Wolle.* [*Leskea Austini* Sull.]

Leskea Hedw.

L. denticulata Sull.—On dry rocks and trunks of trees. MONROE, Analomink Creek, *James;* LEHIGH and NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA and DELAWARE, *James;* CHESTER, New Garden, *Michener;* CAMBRIA, Cresson, *James.*

L. gracilescens Hedw.—On tree trunks. LANCASTER, Lancaster, *Muhlenberg*, *Small*, Safe Harbor, *Small;* WASHINGTON, *Linn* and *Simonton.*

L. nervosa (Brid.) Myrin.—On trees, especially on the base of old maples. MCKEAN, Bradford, *Burnett.*

L. obscura Hedw.—At the base of trees and on wet ground. NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA, Wissa-

hickon, and CHESTER, Chester Valley, *James;* LANCASTER, Peach Bottom, *Porter;* BLAIR, Tyrone, *James;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

L. polycarpa Ehrh.—On roots and trunks of trees. NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* MONTGOMERY and PHILADELPHIA, Gray's Ferry, *James;* LANCASTER, Chiquesalunga Creek and Conestoga Creek, *Small.*

Anomodon Hook. & Tayl.

A. apiculatus Br. & Sch.—On rotten bark. MONROE, Buckhill Falls, *Small;* LANCASTER, Chiquesalunga Creek, *Small;* MCKEAN, *Burnett.*

A. attenuatus (Schreb.) Huebn.—On rocks and roots of trees. NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, Wissahickon, DELAWARE and CHESTER, *James;* LANCASTER, *Small;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

A. minor (Beauv.) Fürn.—On trunks of trees. NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, Byberry, *James;* LANCASTER, *Muhlenberg;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett;* CLEARFIELD, Phillipsburg, and CAMBRIA, *James.* [*A. obtusifolius* Br. & Sch.]

A. rostratus (Hedw.) Schimp.—At the base of trees. MONROE, Buckhill Falls, *Small;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA and CHESTER, *James;* LANCASTER, Mount Hope, *Small;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

A tristis (Cesati) Sull.—On trunks of trees. MONROE, Analomink Creek, *James;* Northampton, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Porter;* CLEARFIELD, *James;* MCKEAN, *Burnett.* [*Leskea tristis* Cesati.]

A. viticulosus (L.) Hook. & Tayl.—On shaded rocks. BUCKS, Narrowsville, *James;* LANCASTER, on the Tucquan, *Small;* FRANKLIN, Mercersburg, *Porter.*

Pterigynandrum Hedw.

P. filiforme Hedw.—On rocks and roots of trees. MONROE, Water Gap; CARBON, *Rau.*

Thuidium Br. & Sch.

T. abietinum (L.) Br. & Sch.—On rocks. NORTHAMPTON, on a cliff above, Easton, *Porter.* Very rare.

T. delicatulum (L.) Mitt.—On the ground and roots of trees. PIKE and NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA, DELAWARE aud CHESTER, *James;* MCKEAN, *Burnett.* [*Hypnum tamariscinum* Sull. & Lesq.]

T. microphyllum (Sw.) Jaeg. & Sauerb.—NORTHAMPTON, *Rau.* [*H. gracile* Br. & Sch.]

T. minutulum (Hedw.) Br. & Sch.—Old logs and about the roots of trees. MONROE and CARBON, Mauch Chunk, *James;* NORTHAMPTON, *Rau;* PHILADELPHIA, Wissahickon, DELAWARE and CHESTER, Chester Valley, *James;* HUNTINGDON, *Porter;* BLAIR, Burgoon's Gap, *Garber;* MCKEAN, *Burnett.*

T. paludosum (Sull.) Rau & Hervey.—Swamps and low grounds. NORTHAMPTON, Sedersville, *Rau;* BUCKS, Morrisville, *James;* PHILADELPHIA, Tacony Creek, *James;* LANCASTER, Dillerville Swamp, *Porter.*

T. pygmaeum Br. & Sch.—On damp stones and rocks. LEHIGH, *Rau;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, *James.*

T. recognitum (Hedw.) Lindb.—On shaded rocks and banks, MONROE, Pocono, *James;* NORTHAMPTON, Bethlehem, *Rau.* Easton, *Porter;* PHILADELPHIA, *James;* LANCASTER, *Small;* CUMBERLAND, Chambersburg, *Porter.* [*H. delicatulum* Br. & Sch.]

T. scitum (Beauv.) Aust.—At the base of trees. NORTHAMPTON, Bethlehem, PHILADELPHIA and CHESTER, New Garden, *James.*

T. scitum aestivale Aust.—PIKE, *Rau;* MONROE, Water Gap, *Austin;* BLAIR, *Porter;* MCKEAN, *Burnett.*

T. Virginianum (Brid.) Lindb.—On decayed logs. MONROE, Buckhill Falls, PHILADELPHIA, Fairmount Park, *James* BLAIR, Bald Eagle Valley, *Porter;* CAMBRIA, Cresson, *James;* NORTHAMPTON, *Rau;* LANCASTER, *Muhlenberg*, New Texas, *Small.* [*H. gracile* var. *Lancastriense* Sull. & Lesq.]

HYPNACEAE.

Isothecieae.

Homalothecium Br. & Sch.

H. subcapillatum (Hedw.) Sull.—On trunks of trees. NORTHAMPTON, Easton Cemetery, *Porter;* PHILADELPHIA, Bartram's Garden, Bustleton, and CHESTER, Warwick Furnace, *James;* LANCASTER, Octorara Creek, *Small*, Cedar Hill, *Porter;* ELK, *McMinn.* [*Pterigonium subcapillatum* Muhl.]

Platygyrium Br. & Sch.

P. repens Br. & Sch.—On trunks of trees, often sterile and gemmiferous. MONROE, Cresco, *James;* NORTHAMPTON, *Rau;* PHILADELPHIA, Bartram's Garden, Wissahickon, and CHESTER, *James;* LANCASTER, *Porter;* INDIANA and BEAVER, *James;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, Bradford, *Burnett.* [*Entodon palatinus* (Neck.) Lindb.]

Pylaisia Br. & Sch.

P. intricata (Hedw.) Card.—On tree trunks. PIKE, Elbow Swamp, and CARBON, *Rau;* LANCASTER, Mount Hope, *Small;* MCKEAN, *Burnett.* [*P. velutina* Br. & Sch.]

P. polyantha (Schreb.) Br. & Sch.—On tree trunks. MCKEAN, *Burnett.*

P. Schimperi Cardot.—On trees. NORTHAMPTON, Bethlehem, *Rau;* EASTON, *Porter;* PHILADELPHIA, DELAWARE and CHESTER, Coventry, *James;* LANCASTER, *Small;*

CLEARFIELD, Phillipsburg, and INDIANA, Blairsville, *James;* ELK, *McMinn;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.* [*P. intricata* Schimp.]

Entodon C. Muell.

[*Cylindrothecium* Br. & Sch.]

E. brevisetus (Hook. & Wils.) Jaeg. & Sauerb.—In dry places. PHILADELPHIA, Bingham's, *James;* CHESTER, New Garden, *Michener;* ELK, Bennett's Branch, *McMinn;* MCKEAN, *Burnett.*

E. compressus C. Muell.—On bases or roots of trees. NORTHAMPTON, Easton Cemetery, and PHILADELPHIA, Byberry, *James;* CHESTER, New Garden, *Michener.* [*C. compressum* Br. & Sch.]

E. cladorhizans (Hedw.) C. Muell.—On old logs, roots of trees and shaded shingle-roofs. LEHIGH, and NORTHAMPTON and CHESTER, Coventry, *James;* LANCASTER, Mount Hope, *Small;* INDIANA and BEAVER, *James;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

E. seductrix (Hedw.) C. Muell.—On wet ground, rocks and roots of trees. LEHIGH and NORTHAMPTON, Bethlehem, *Rau,* Easton, *Porter;* BUCKS, Narrowsville, *James;* MONTGOMERY, PHILADELPHIA, Germantown, DELAWARE and CHESTER, Coventry, *James;* LANCASTER, *Porter,* Safe Harbor, *Small;* INDIANA, *James;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

E. Sullivantii C. Muell.—On damp ground. PHILADELPHIA, along the Schuylkill, *James.* Rare.

Climacium Web. & Mohr.

C. Americanum Brid.—On wet, shaded ground. MONROE, Water Gap, *Porter;* NORTHAMPTON, Bingen, *Rau;* PHILADELPHIA, *James;* DELAWARE, *Smith;* LANCASTER, Welsh Mountains, Conewago and Mount Hope, *Small;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.* Very common, but rarely fruiting.

C. dendroides (L.) Web. & Mohr.—CHESTER, *Darlington;* DAUPHIN, Harrisburg, *Small.*

C. Kindbergii (R. & C.) Grout. In water or low grounds. LANCASTER and LEBANON, Mount Hope and Penryn, *Small;* LUZERNE, Lily Lake, *Small;* MCKEAN, Bradford, *Burnett.* [*C. Americanum* var. *fluitans* Aust.]

Brachythecieae.

Camptothecium Schimp.

C. nitens (Schreb.) Schimp.—In bogs. NORTHAMPTON, Bingen, *Rau.*

Brachythecium Schimp.

B. acuminatum (Hedw.) Rau. & Hervey.—On damp ground and logs. NORTHAMPTON, Lime Ridge, *Rau;* PHILADELPHIA, Bingham's, and CHESTER, Coventry, *James;* LANCASTER, Conewago, *Small;* FRANKLIN, Mercersburg, *Porter;* CLEARFIELD, Phillipsburg, and WESTMORELAND, Greensburg, *James.*

B. acuminatum rupincolum (Hedw.) R. & C.—Occasional with the species.

B. acuminatum setosum (Hedw.) Sull. & Lesq.—LANCASTER, *Muhlenberg.* [*Leskea setosa* Hedw.]

B. **acutum** (Mitt.) Sull.—In low places. MONROE, Water Gap, *Austin;* LEHIGH and NORTHAMPTON, *Rau;* MCKEAN, *Burnett.*

B. campestre (C. Muell.) Br. & Sch.—On damp ground and rocks in woods. MONROE, Tobyhanna Mills, NORTHAMPTON, Bethlehem, *Rau;* BUCKS, Morrisville, *James.*

B. cyrtophyllum Kindb.—MCKEAN, Bradford, *Burnett.*

B. flexicaule R. & C.—LANCASTER, *Muhlenberg;* MCKEAN, *Burnett.*

B. Novae-Angliae (Sull. & Lesq.) Jaeg. & Sauerb.—On wet ground and rocks. PIKE and LEHIGH, *Rau;* MONROE, Mount Pocono, *James;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA and CHESTER, *James;* YORK, *Porter;* LANCASTER, *Mrs. Eby;* MCKEAN, *Burnett.*

B. oxycladon (Brid.) Jaeg. & Sauerb.—LANCASTER, *Muhlenberg.*

B. plumosum (Sw.) Br. & Sch.—LANCASTER, Rock Hill and Tucquan, *Small.*

B. populeum rufescens Br. & Sch.—McKEAN, Bradford, *Burnett.*

B. reflexum (Starke) Br. & Sch.—Credited to the State in Sullivant and Lesquereux's *Musci Allegh.* McKEAN, Bradford, *Burnett.*

B. rivulare Br. & Sch.—On wet ground and rocks. MONROE, Tobyhanna Mills, *James;* NORTHAMPTON, Easton and Bethlehem, LEHIGH and BUCKS, *Rau;* PHILADELPHIA, Bingham's and the Wissahickon, *James;* LANCASTER, Mount Hope, *Small;* YORK, *Porter;* CAMBRIA, Cresson, *James.*

B. rutabulum (L.) Br. & Sch.—On wet and springy ground. PIKE, LEHIGH and NORTHAMPTON, Bethlehem, *Rau;* MONROE, Cresson; BUCKS, PHILADELPHIA, Bartram's Garden, Byberry, Wissahickon, DELAWARE and CHESTER, Coventry, *James;* LANCASTER and FRANKLIN, Mercersburg, *Porter;* McKEAN, *Burnett.*

B. salebrosum (Hoffm.) Br. & Sch.—On logs and on the ground. MONROE, Tobyhanna Mills and Mount Pocono, *James;* LEHIGH, NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA, Bartram's Garden, Fairmount Park, Manayunk, and CHESTER, Chester Valley, *James;* LANCASTER and YORK, *Porter;* ELK, *McMinn;* McKEAN, *Burnett.*

B. Starkei (Brid.) Br. & Sch.—On shaded ground. PIKE and CARBON, *Rau;* MONROE, Tobyhanna Mills and Mount Pocono, *James;* ELK, Benezette, *McMinn;* McKEAN, *Burnett.*

B. velutinum (L.) Br. & Sch.—On the ground. LANCASTER, *Small;* YORK, *Porter*, rare; McKEAN, *Burnett.*

Hylocomium Br. & Sch.

H. brevirostre (Ehrh.) Br. & Sch.—In shaded ravines and swamps. MONROE, Buckhill Falls, *E. G. Britton*, Pocono,

Porter; NORTHAMPTON and PIKE, *Rau;* PHILADELPHIA, Wissahickon, *James;* LANCASTER, Martic Forge, and BLAIR, *Porter;* CAMBRIA, *James;* ELK, *McMinn;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

H. parietinum (L.) Lindb.—Open dry woods. MONROE, Pocono Mountain and Buckhill Falls, *E. G. Britton;* PIKE, *Garber;* CARBON and LEHIGH, *Rau;* NORTHAMPTON, Bethlehem and Easton, PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER and HUNTINGDON, *Porter;* ELK, *McMinn;* MCKEAN, *Burnett.* [*Hypnum Schreberi* Willd.]

H. proliferum (L.) Lindb.—On the ground in damp woods. MONROE, Pocono, and NORTHAMPTON, near Easton, *Porter;* PIKE and CARBON, *Rau;* PHILADELPHIA, high bluff on the Wissahickon, *James;* LANCASTER, Martic Forge, and BLAIR, *Porter;* LUZERNE, Pond Hill, *Small;* ELK, *McMinn;* MCKEAN, *Burnett;* WASHINGTON, *Linn* and *Simonton.* [*Hypnum splendens* Hedw.]

H. rugosum (Ehrh.) De Not.—Dry woods, on the ground. NORTHAMPTON, Easton, *Porter;* BUCKS, Nockamixon Rocks, *Small;* LANCASTER, FRANKLIN, Mercersburg, and HUNTINGDON, *Porter.* Common, but sterile.

H. squarrosum (L.) Br. & Sch.—Grassy places and borders of woods. PIKE, *Rau;* CAMBRIA, Cresson, *Lesquereux.*

H. triquetrum (L.) Br. & Sch.—In dry woods, on the ground. PIKE, CARBON and LEHIGH, *Rau;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, Fairmount Park, DELAWARE and CHESTER, *James;* LANCASTER, *Porter* and *Small;* LUZERNE, *Small;* CAMBRIA, *Porter;* ELK, *McMinn;* MCKEAN, *Burnett;* WASHINGTON, *Linn* and *Simonton.*

H. umbratum (Ehrh.) Br. & Sch.—MCKEAN, Marilla Brook, *Burnett.*

Eurhynchium Br. & Sch.

E. Boscii (Schwaegr.) Jaeg. & Sauerb.—On shaded rocks and banks. MONROE, Mt. Pocono, *E. G. Britton,* Delaware Water Gap, *Garber;* NORTHAMPTON, Easton, *Porter;*

BUCKS, PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, Safe Harbor, *Small;* FRANKLIN and CAMBRIA, WASHINGTON, *Linn* and *Simonton.*

E. diversifolium (Schleich.) Br. & Sch.—NORTHAMPTON, Bethlehem, *Rau.*

E. graminicolor (Brid.) R. & C.—PIKE, LEHIGH, BUCKS, NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, *James;* LANCASTER, Rock Hill, *Small;* FRANKLIN, Mercersburg, and HUNTINGDON, Alexandria, *Porter;* McKEAN, Bradford, *Burnett.* [*Hypnum Sullivantii* Spruce.]

E. hians (Hedw.) Jaeg. & Sauerb.—In low, shaded places. LEHIGH, *Rau;* BUCKS, Narrowsville, PHILADELPHIA. Wissahickon, Holmesburg, and CHESTER, Coventry, *James;* DELAWARE (Smith's Catalogue); LANCASTER, FRANKLIN, Mercersburg, and CAMBRIA, Cresson, *Porter;* ELK, Bennett's Branch, *McMinn;* WASHINGTON, *Linn* and *Simonton;* McKEAN, *Burnett.*

E. piliferum (Schreb.) Br. & Sch.—On moist ground. MONROE, Water Gap, and PHILADELPHIA, Wissahickon, *James;* ELK, Benezette, *McMinn;* McKEAN, *Burnett.*

E. strigosum (Hoffm.) Br. & Sch.—On dry ground. MONROE, Water Gap, *James;* NORTHAMPTON, Easton, *James,* Bethlehem, *Rau;* LEHIGH, *Rau;* PHILADELPHIA and CHESTER, Coventry, *James;* ELK, *McMinn;* McKEAN, *Burnett.*

E. strigosum praecox (Hedw.) Husn.—LANCASTER, *Muhlenberg.* [*Leskea fasciculosa* Hedw.]

Rhynchostegium Br. & Sch.*

R. deplanatum (Schimp.) L. & J.—On damp, shaded ground and stones. PIKE, *Rau;* MONROE, Analomink Creek, NORTHAMPTON, Easton, *Garber;* PHILADELPHIA, Fairmount Park, DELAWARE and CHESTER, *James;* McKEAN, *Burnett.*

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*R. curvisetum (Brid.) Lindb. has been credited to Fairmount Park, Philadelphia, by Prof. T. P. James, but this is probably a mistake, as specimens cannot be found in his herbarium, and this is the only time it has been reported from North America.

R. geophilum Aust.—On damp, shaded ground. LEHIGH, *Rau;* PHILADELPHIA, on the Schuylkill (fruiting), *James;* CAMBRIA, Cresson, *Porter.* Rare.

R. rusciforme (Neck.) Br. & Sch.—On rocks in rivulets. MONROE, Water Gap, *James;* LEHIGH and BUCKS, *Rau;* NORTHAMPTON, Bethlehem, *Rau*, Easton, *Porter;* PHILADELPHIA, Wissahickon, and CHESTER, Coventry, *James;* LANCASTER, Chickies, *Porter*, Mount Hope, *Small;* YORK, *Porter;* CAMBRIA, Cresson, *James;* MCKEAN, *Burnett.*

R. serrulatum (Hedw.) Jaeg. & Sauerb.—On damp ground about trees. PIKE and LEHIGH, *Rau;* MONROE, Tobyhanna Mills, *James;* NORTHAMPTON, Bethlehem, *Rau;* Easton Cemetery and Weygat, *Porter;* PHILADELPHIA, Bartram's Garden, Mount Moriah Cemetery, Byberry, DELAWARE and CHESTER, Chester Valley, *James;* LANCASTER, *Porter;* CAMBRIA, Cresson, and BEAVER, *James.*

Sematophyllum Mitt.

S. tenuirostre (Br. & Sch.) E. G. Britton.—MONROE, Delaware Water Gap, *Austin.* [*R. cylindricarpum* (C. Muell.) Jaeg. & Sauerb.]

S. Carolinianum (C. Muell.) E. G. Britton.—On the ground and moist rocks. LEHIGH and CARBON, *Rau;* NORTHAMPTON, Bushkill Gap, and PHILADELPHIA, Wissahickon, *James.* [*R. demissum* (Wils.) De Not.]

S. Marylandicum (C. Muell.) E. G. Britton.—CARBON, *Rau.* [*R. Marylandicum* (C. Muell.) Jaeg. & Sauerb.]

S. delicatulum (James) E. G. Britton.—On perpendicular rocks. MCKEAN, Bradford, *Burnett.* [*R. laxepetalum* (L. & J.) R. & C.]

S. adnatum (Michx.) E. G. Britton.—MONROE, Buckhill Falls, *E. G. Britton.* [*R. microcarpum* (Brid.) Jaeg. & Sauerb.]

S. Novae-Cesareae, (Aust.) E. G. Britton.—On damp rocks. CARBON, Stony Creek (fruiting), *F. Wolle;* MCKEAN, Manilla Brook, *Burnett.* [*R. Novae-Cesareae* R. & C.]

S. recurvans (Michx.) E. G. Britton.—On the ground and roots of trees. PIKE, CARBON, LEHIGH and NORTHAMPTON, Bethlehem, *Rau;* MONROE, PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, Mount Hope, *Small*, Chickies, *Porter;* ELK, *McMinn;* MCKEAN, *Burnett.* [*R. recurvans* (Michx.) Br. & Sch.]

Porotrichum Brid.

P. Alleghaniense (Br. & Sch.) Grout.—Wet rocks, in ravines, rare in fruit. MONROE, Water Gap, *James*, *Knipe*, fruiting, Buckhill Falls, *E. G. Britton;* LEHIGH and BUCKS, Narrowsville, *Rau;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, Wissahickon, *James;* LANCASTER, Martic Forge, and HUNTINGDON, *Porter*, CAMRRIA, Cresson, *James;* MCKEAN, *Burnett.*

HYPNEAE.

Plagiothecium Br. & Sch.

P. denticulatum (L.) Br. & Sch.—On damp ground.—LEHIGH and NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* MONROE, Pocono, *James;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Small;* YORK and FRANKLIN, *Porter;* CAMBRIA, Ebensburg, *James;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

P. elegans (Hook.) Schimp.—On the ground. PIKE and CARBON, *Rau;* NORTHAMPTON, Easton, *Porter;* PHILADELPHIA, Wissahickon, *James;* MCKEAN, *Burnett.*

P. Muellerianum Schimp.—On the ground. CARBON, *Rau;* PHILADELPHIA, Wissahickon, *James;* LANCASTER, Martic Forge, *Porter.*

P. pulchellum nitidulum (Wahl.) L. & J.—On the ground. BUCKS, Narrowsville, *James;* ELK, Benezette, *McMinn.*

P. Roseanum orthocladon (Br. & Sch.) Limpr.—On the ground. PHILADELPHIA, along the Schuylkill and Wissahickon, *James.* [*P. sylvaticum* var. *orthocladon* (Br. & Sch.) L. & J.]

P. striatellum (Brid.) Lindb.—On logs and shaded ground. PIKE and CARBON, *Rau;* PHILADELPHIA, Wissahickon, CHESTER, Chester Valley, and CAMBRIA, Ebensburg, *James;* MONROE, *Garber;* MCKEAN, *Burnett.* [*Hypnum Muhlenbeckii* Spruce.]

P. Sullivantiae Br. & Sch.—Shaded places on the ground. MONROE, Cresco, *James;* NORTHAMPTON, Bethlehem, *Rau,* Easton, *Porter;* PHILADELPHIA, Wissahickon, and DELAWARE, Radnor, *James;* LANCASTER, Marietta, *Porter;* MCKEAN, *Burnett.*

P. sylvaticum (Huds.) Br. & Sch.—PIKE, CARBON and LEHIGH, *Rau;* NORTHAMPTON, *Green;* CHESTER, Chester Valley, *James;* FRANKLIN, Mercersburg, *Porter.*

P. turfaceum (Lindb.) Lindb.—On damp ground. PIKE, *Rau;* CAMBRIA, Ebensburg, *James;* MCKEAN, *Burnett.*

Isopterygium Mitt.

I. micans (Sw.) E. G. Britton.—On decayed wood. CENTRE, Bear Meadows, *Porter.*

Amblystegium Br. & Sch.

A. adnatum (Hedw.) Aust.—On damp ground and rocks, in woods. LEHIGH and NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, Wissahickon, DELAWARE, Radnor, and CHESTER, Chester Valley, *James;* LANCASTER, Chestnut Hill, and YORK, *Porter.*

A. confervoides (Brid.) Br. & Sch.—On limestone rocks. NORTHAMPTON, Easton, *Porter,* Bethlehem, *Rau;* LANCASTER. [*H. confervoides* Brid.]

A. fluviatile (Sw.) Br. & Sch.—PIKE, outlet of East Branch Pond, *Rau;* MCKEAN, *Burnett.*

A. irriguum (Hook. & Wils.) Br. & Sch.—On wet rocks in rivulets. MONROE, Water Gap, *Wood;* LEHIGH, NORTH-

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A. compactum (C. Muell.) Austin has been credited to the State without locality, by L. Cheney (Botanical Gazette, 24: 265).

AMPTON, Bethlehem, *Rau;* PHILADELPHIA, Pennypack Creek, *James;* HUNTINGDON, *Porter;* CAMBRIA, Cresson and Johnstown, *James.*

A. irriguum spinifolium (Schimp.)—In and around limestone springs. FRANKLIN, Mercersburg, and LANCASTER, Lititz, *Porter;* NORTHAMPTON, *Rau.*

A. Juratskanum Schimp.—In damp places. NORTHAMPTON, Bethlehem, *Rau.*

A. Kochii Br. & Sch.—In springy places. MCKEAN, Bradford, *Burnett.*

A. Lescurii (Sull.) Aust.—On wet, shaded rocks. LUZERNE and CARBON, *Rau;* NORTHAMPTON, on the Bushkill Creek, LANCASTER, near the Buck Tavern; YORK, opposite Marietta, *Porter;* PHILADELPHIA, Wissahickon, *James.*

A. minutissimum (Sull. & Lesq.) Jaeg. & Sauerb.—On limestone rocks. NORTHAMPTON, Easton Cemetery; LANCASTER, Cedar Hill, and HUNTINGDON, Alexandria, *Porter.*

A. riparium (L.) Br. & Sch.—In rivulets and standing water. MONROE, *James;* NORTHAMPTON, Bethlehem, *Rau;* Easton, *Porter;* PHILADELPHIA, Wissahickon, DELAWARE and CHESTER, *James;* LANCASTER, Lititz Springs, and FRANKLIN, Mercersburg, *Porter.*

A. serpens (L.) Br. & Sch.—On logs, rocks and the ground. NORTHAMPTON, Bethlehem, *Rau;* Easton, *Green;* PHILADELPHIA, Bustleton, Manayunk, Byberry, DELAWARE, Radnor, and CHESTER, *James;* LANCASTER, Dillerville Swamp, *Porter*, Conewago, *Small.*

A. varium (Hedw.) Lindb.—Wet ground and rocks. MONROE, Water Gap, *James;* NORTHAMPTON; LEHIGH, *Rau;* BUCKS, *Rau;* PHILADELPHIA, Woodlands, Manayunk, Wissahickon, Tacony, Bustleton, DELAWARE, Radnor, and CHESTER, Chester Valley, *James;* HUNTINGDON, Spruce Creek, *Porter;* CAMBRIA, *James;* YORK and LEBANON, *Porter;* MCKEAN, *Burnett.* [*H. orthocladon* Brid.]

Hypnum L.

Hypnum, subgenus *Chrysohypnum.*

H. chrysophyllum Brid.—On the ground in fields and woods. MONROE, Tobyhanna, *Garber;* Buckhill Falls, *E. G. Britton;* PIKE, LEHIGH, CARBON, NORTHAMPTON and BUCKS; LANCASTER, Cedar Hill, *Porter;* Smithville and New Texas, *Small;* MCKEAN, *Burnett.*

H. hispidulum Brid.—On the ground, the base of trees and old stumps. MONROE, Pocono, *James;* LEHIGH, *Rau;* NORTHAMPTON, Bethlehem, *Rau*, Easton, *Porter;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, *Porter* and *Small;* CAMBRIA and INDIANA, *James;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

H. radicale Beauv.—On wet, decaying leaves. PIKE and LEHIGH, near Bethlehem, *Rau;* PHILADELPHIA, on the Wissahickon, *James;* LANCASTER, Conewago, *Small.* [*H. chrysophyllum* var. *tenellum* L. & J. *Hypnum Bergenense* Aust.]

H. stellatum Schreb.—Swamps. NORTHAMPTON, Bigen, *Rau;* CHESTER (Flora Cestrica); LANCASTER, Dillerville, *Porter;* MCKEAN, *Burnett.*

Hypnum, subgenus *Drepanocladus.*

H. aduncum L.—On wet rocks and in marshes. PIKE, *Rau;* NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA, Fairmount Park and Wissahickon, *James;* DELAWARE (Smith's Catalogue); LANCASTER, Dillerville Swamp, *Porter;* CHESTER, *Michener;* HUNTINGDON, *Porter;* CAMBRIA, *James.* [*Hypnum uncinatum* Hedw.]

H. exannulatum Guembel.—Marshy places. LUZERNE, *Rau.*

H. fluitans L.—In water. PIKE and CARBON, *Rau;* MONROE, Tobyhanna Mills, *Porter;* Water Gap, *Austin;* LANCASTER, Smithville, *Small;* CENTRE, Bear Meadows, *Porter.*

H. hamifolium Schimp.—MONROE, Pocono, *Porter.* Rare. [*H. aduncum giganteum* Br. & Sch.]

H. Kneiffii (Br. & Sch.) Schimp.—LUZERNE, *Rau;* CARBON, *F.*

Wolle; LANCASTER, Conewago, *Small.* [*A. Kneiffii* Br. & Sch.]

H. polycarpon gracilescens (Br. & Sch.) Limpr.—In limestone springs. LANCASTER, YORK, opposite Marietta, and FRANKLIN, near Chambersburg, *Porter.* [*H. aduncum gracilescens* Br. & Sch.]

Hypnum, subgenus *Cratoneuron.*

H. filicinum L.—Swamps. NORTHAMPTON, Monocacy, *Rau;* LANCASTER, Dillerville, and HUNTINGDON, Spruce Creek, *Porter.*

Hypnum, subgenus *Ptilium.*

H. crista-castrensis L.—In woods, on decayed logs and damp ground. MONROE, Pocono, *Porter;* PIKE, CARBON and NORTHAMPTON, *Rau;* PHILADELPHIA, Wissahickon, *James;* DELAWARE (Smith's Catalogue); CHESTER, New Garden, *Michener;* LANCASTER, Martic Forge, and CAMBRIA, Cresson, *Porter;* BLAIR, *Garber;* ELK, *McMinn;* MCKEAN, *Burnett.*

Hypnum, subgenus *Ctenidium.*

H. molluscum Hedw.—On the ground and rocks. MONROE, Tobyhanna Mills and Analomink Creek, *James;* LEHIGH and NORTHAMPTON, *Rau;* PHILADELPHIA, Wissahickon, *James;* DELAWARE, *Smith;* CHESTER, New Garden, *Michener;* LANCASTER, Martic Forge, and CAMBRIA, Cresson, *Porter;* BLAIR, *Garber;* ELK, *McMinn;* MCKEAN, *Burnett;* WASHINGTON, *Linn* and *Simonton.*

Hypnum, subgenus *Stereodon.*

H. cupressiforme L.—On the ground and roots of trees. LANCASTER, Mount Hope, *Small;* CAMBRIA, Ebensburg, *James;* MCKEAN, *Burnett.*

H. cupressiforme filiforme Brid.—PHILADELPHIA, Fairmount Park, *James*, sterile. MCKEAN, on damp stones at foot of cliff, *Burnett.*

H. cypressiforme mammillatum Brid.—LANCASTER, Beartown, *Small.*

H. curvifolius Hedw.—On damp ground and logs. BUCKS, PIKE and CARBON, *Rau;* MONROE, Pocono, and NORTHAMPTON, Easton, *Porter;* PHILADELPHIA, Wissahickon, DELAWARE and CHESTER, Chester Valley, *James;* LANCASTER, Safe Harbor, *Porter;* CAMBRIA, Ebensburg, *James.*

H. fertile Sendt.—In moist places. PIKE, *Rau.*

H. Haldanianum Grev.—On damp ground, in woods. MONROE, Pocono, *James;* LEHIGH and NORTHAMPTON, Bethlehem, *Rau;* PHILADELPHIA, Fairmount Park, DELAWARE and CHESTER, Chester Valley, *James;* CAMBRIA, Cresson, *Porter*, Ebensburg, *James;* ELK, *McMinn.*

H. imponens Hedw.—On decayed logs. MONROE, Mt. Pocono, Tobyhanna, *James*, and Pocono Mtn., *E. G. Britton;* PIKE, *Rau;* LEHIGH and NORTHAMPTON, *Rau;* PHILADELPHIA, DELAWARE and CHESTER, *James;* LANCASTER, Safe Harbor and New Texas, *Small;* DAUPHIN, Peter's Mtn., *Small;* FRANKLIN and CAMBRIA, Cresson, *Porter;* ELK, *McMinn;* WASHINGTON, *Linn* and *Simonton;* MCKEAN, *Burnett.*

H. nemorosum Koch.—On decayed logs. CARBON, *F. Wolle.*

H. pallescens Hedw.—On the ground and trunks of trees. PIKE, *Rau;* MONROE, *James* and *Porter;* CAMBRIA, Cresson, *Porter.*

H. pratense Koch.—In wet meadows. LEHIGH and NORTHAMPTON, *Rau;* PHILADELPHIA, *James;* LANCASTER, Dillerville Swamp, *Porter;* CAMBRIA, Wiltmore, *James;* MCKEAN, *Burnett.* Common.

H. reptile Michx.—At base of trees and on decaying logs, MONROE, Mt. Pocono, *E. G. Britton;* PIKE, *Rau;* LANCASTER, *Muhlenberg;* MCKEAN, *Burnett.*

Hypnum, subgenus *Hygrohypnum.*

H. eugyrium Br. & Sch.—On rocks in mountain brooks. LUZERNE and CARBON, *Rau.*

H. ochraceum Turn.—Wet rocks. LEHIGH, PIKE, *Rau;* MONROE, Mt. Pocono, and CARBON, Mauch Chunk, *James;*

NORTHAMPTON, Bethlehem, *Rau;* CAMBRIA, Cresson, *James;* MCKEAN, *Burnett.*

H. palustre Huds.—Wet rocks, CARBON, *Rau;* HUNTINGDON, *Porter;* MCKEAN, *Burnett.*

Hypnum, subgenus *Calliergon.*

H. cordifolium Hedw.—Swamps. PIKE, *Rau;* MONROE, Pocono, *Porter* and *James;* NORTHAMPTON and BUCKS, *Rau.*

H. giganteum Schimp.—Swamps. LANCASTER, Dillerville Swamp, *James*, *Porter*, *Small.*

H. stramineum Dicks.—Swamps. MONROE, Pocono (in a bed of wet sphagnum), *Porter.* Very rare.

Hypnum, subgenus *Acrocladium.*

H. cuspidatum L.—Swamps and marshy ground. LEHIGH and NORTHAMPTON, on the Monocacy, *Rau;* LANCASTER, Dillerville Swamp, *Porter.*

PTERIDOPHYTA.

OPHIOGLOSSALES.

OPHIOGLOSSACEAE.

Ophioglossum L.

O. vulgatum L.—In moist meadows and thickets. MONROE, Tannersville, *Porter;* TIOGA, *Garber;* LUZERNE, Lily Lake, *Heller;* BUCKS, *Ruth;* DELAWARE, *Leidy;* CHESTER, *Canby;* MIFFLIN, *Henderson;* CRAWFORD, Conneaut Lake, *Garber.*

Botrychium Sw.

B. dissectum Spreng.—In open woods and about thickets. NORTHAMPTON, *Seibert;* MONTGOMERY, *Saunders;* DELAWARE, *G. Smith;* LANCASTER and FRANKLIN, *Porter;* MIFFLIN, Kishicoquillas Valley, *Henderson;* ERIE, *Fenno.*

B. lanceolatum (S. G. Gmel.) Angs.—In meadows, woods, and swamps. WAYNE, Mt. Pleasant, *Garber;* LYCOMING, Pine Creek, *McMinn;* SOMERSET, *Brown* and *Saunders.*

B. neglectum Wood.—In grassy woods and swamps. WAYNE, *Garber;* MONROE, Tannersville, *Seibert;* SUSQUEHANNA, top of Mt. Ararat, alt. 2800 ft., *Saunders.*

B. obliquum Muhl.—In low woods and open places. MONROE and NORTHAMPTON, *Porter;* BUCKS, *Fretz;* MONTGOMERY, *Saunders;* DELAWARE (Smith's Catalogue); CHESTER, LANCASTER and FRANKLIN, *Porter;* HUNTINGDON, *Porter;* ALLEGHENY, *Shafer;* ERIE, *Fenno;* MIFFLIN, *Henderson.*

B. simplex E. Hitchcock.—In moist woods, meadows and swamps. MONROE, Naomi Pines, *E. G. Britton;* NORTHAMPTON, Chestnut Hill, near Easton (only two specimens found), *J. Marsh.*

B. Virginianum (L.) Sw.—In damp or rich woods. PIKE and MONROE, *Porter;* NORTHAMPTON; BUCKS; PHILADELPHIA; DELAWARE; CHESTER; LANCASTER; FRANKLIN, *Green;* HUNTINGDON and SOMERSET, *Brown* and *Saunders;* ALLEGHENY, *Shafer;* ERIE, *Fenno.* Common throughout the State.

FILICALES.

OSMUNDACEAE.

Osmunda L.

O. Claytoniana L.—In low woods and marshes. LACKAWANNA and MONROE, *Porter;* BUCKS; PHILADELPHIA; LANCASTER, *Diffenbaugh;* FRANKLIN and HUNTINGDON, *Shafer;* LEBANON, *Heller;* ERIE, *Fenno;* CHESTER (Flora Cestrica); PIKE, *Porter;* HUNTINGDON; TIOGA; BEAVER; DELAWARE, *Shafer.*

O. cinnamomea L.—In swamps and low grounds. LACKAWANNA, *Porter;* NORTHAMPTON; BUCKS; LANCASTER, *Carter;* MONROE, *Porter;* LEBANON, *Small;* ERIE *Fenno;* PIKE, *Porter;* HUNTINGDON, *Porter;* CENTRE; FRANKLIN, *Green;* LAWRENCE, *Shafer;* CHESTER (Flora Cestrica); DELAWARE (Smith's Catalogue).

O. regalis L.—In swamps and marshes. LACKAWANNA and MONROE, *Porter;* BUCKS; NORTHAMPTON, *Porter;* DELAWARE (Smith's Catalogue); LANCASTER, *Porter;* LEBANON and COLUMBIA, *Heller;* PERRY, *Porter;* VENANGO, *Bell* ALLEGHENY, *Shafer;* ERIE, *Fenno;* CHESTER (Flora Cestrica); PIKE, *Porter;* HUNTINGDON; CENTRE.

SCHIZAEACEAE.

Lygodium Sw.

L. palmatum (Bernh.) Sw.—In moist thickets and open

woods. MONROE, Long Pond, *Porter;* BUCKS, (Moyer's Catalogue); LUZERNE, near Hazelton, *Porter;* SCHUYLKILL; CARBON, Onoko Glen, *Rau.*

POLYPODIACEAE.

Onoclea L.

O. sensibilis (L.)—In low or moist grounds. NORTHAMPTON; BUCKS; LANCASTER; HUNTINGDON; ERIE; CHESTER; PIKE; MONROE; BEAVER; ALLEGHENY; DELAWARE.

Matteuccia Todaro.

M. Struthiopteris (L.) Todaro.—In thickets, especially along streams. MONROE; NORTHAMPTON; BUCKS; LANCASTER; DAUPHIN; MIFFLIN; BLAIR; VENANGO; ALLEGHENY; ERIE; SOMERSET.

Woodsia R. Br.

W. Ilvensis (L.) R. Br.—On exposed rocks or cliffs. LUZERNE; Lily Lake, *Heller;* LYCOMING, *McMinn;* HUNTINGDON; BUCKS; MONROE, Water Gap, *Knipe;* NORTHAMPTON, near Easton, *Seibert;* BUCKS, Nockamixon Cliffs, *Porter;* BLAIR, Tyrone, *Porter;* CHESTER (Flora Cestrica).

W. obtusa (Spreng.) Torr.—On rocks and in stony soil. PIKE, *Brown* and *Saunders;* NORTHAMPTON and BUCKS, *Porter;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, *Small;* LYCOMING, *McMinn;* FRANKLIN and HUNTINGDON, *Porter;* ALLEGHENY, *Knipe.*

Dennstaedtia Bernh.

D. punctilobula (Michx.) Moore.—In moist or dry soil, especially on exposed stony hillsides. WAYNE, *Garber;* PIKE, *Brown* and *Saunders;* LACKAWANNA, *Dudley;* MONROE, *Porter;* LUZERNE, *Heller;* NORTHAMPTON; BUCKS, *Fretz;* DELAWARE (Smith's Catalogue); CHESTER, (Flora Cestrica); LANCASTER; LYCOMING, *McMinn;*

SOMERSET, *Brown* and *Saunders;* BEAVER and ALLEGHENY, *Shafer;* ERIE, *Fenno.*

Filix Adans.

F. bulbifera (L.) Underw.—On moist rocks, especially limestone. SUSQUEHANNA, *Saunders;* MONROE, Bushkill; NORTHAMPTON; BUCKS; LANCASTER and HUNTINGDON, *Porter;* ALLEGHENY and BEAVER, *Shafer.*

F. fragilis (L.) Underw.—On rocks or in moist woods. SUSQUEHANNA, *Saunders;* MONROE; LUZERNE and COLUMBIA, *Heller;* NORTHAMPTON; LANCASTER and DAUPHIN, *Porter;* LYCOMING, *McMinn;* SULLIVAN, *Smith;* HUNTINGDON, *Porter;* ALLEGHENY, *Knipe;* SOMERSET, *Brown* and *Saunders.*

Dryopteris Adans.

D. Boottii (Tuckerm.) Underw.—In woods. SUSQUEHANNA, *Saunders;* PIKE, *Brown* and *Saunders;* MONTGOMERY, *Saunders;* PHILADELPHIA, *Leidy;* BERKS, *Hiester;* SOMERSET, *Brown* and *Saunders;* ALLEGHENY, *Shafer;* ERIE, *Fenno.*

D. cristata (L.) A. Gray.—In swamps and low woods. LUZERNE, *Thurston;* MONROE, Tobyhanna Mills, *Porter;* PIKE, *Brown* and *Saunders;* NORTHAMPTON, *Wolle;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, *Porter;* HUNTINGDON and CENTRE, *Davis;* BLAIR, *Boecking;* SOMERSET, *Brown* and *Saunders;* ALLEGHENY and LAWRENCE, *Shafer;* ERIE, *Fenno.*

D. cristata Clintoniana (D. C. Eaton) Underw.—SUSQUEHANNA, *Saunders;* NORTHAMPTON, Bangor, *Porter;* DELAWARE and CHESTER, *Price;* ERIE, *Fenno.*

D. Goldieana (Hook.) A. Gray.—In rich or moist woods. SUSQUEHANNA, *Saunders;* NORTHAMPTON, Easton, *Porter;* BUCKS, *Moyer;* BERKS, Reading, *Hiester;* MONTGOMERY, *Saunders;* CHESTER, *Palmer;* BLAIR, *Boecking;* SOMER-

SET, *Brown* and *Saunders;* ALLEGHENY, *Shafer;* VENANGO, *Bell;* ERIE, *Fenno.*

D. marginalis (L.) A. Gray.—In rocky woods. LACKAWANNA; PIKE, *Brown* and *Saunders;* NORTHAMPTON; BUCKS; PHILADELPHIA; DELAWARE, *Smith;* CHESTER, (Flora Cestrica); LANCASTER, *Porter;* DAUPHIN, *Small;* COLUMBIA, *Heller;* LYCOMING, *McMinn;* FRANKLIN; SOMERSET, *Brown* and *Saunders;* ALLEGHENY, *Shafer;* ERIE, *Fenno.*

D. Noveboracensis (L.) A. Gray.—In moist woods and thickets. SUSQUEHANNA, *Saunders;* PIKE, *Brown* and *Saunders;* LACKAWANNA, MONROE and NORTHAMPTON, *Porter;* BUCKS, *Fretz;* LUZERNE, *Heller;* PHILADELPHIA; DELAWARE, (Smith's Catalogue); CHESTER and LANCASTER, *Porter;* FRANKLIN, *Green;* ALLEGHENY, *Shafer*; ERIE, *Fenno.*

D. simulata Davenp.—In damp woods and shaded swamps. PIKE, *Brown* and *Saunders;* MONROE, Tannersville Bog; SCHUYLKILL, Pottsville, *Porter;* CHESTER, Paoli; CRAWFORD.

D. spinulosa (Retz) Kuntze.—In rich woods. MONROE, Pocono, and FRANKLIN, Mercersburg, *Green;* HUNTINGDON, Alexandria, *Porter.*

D. spinulosa dilatata (Hoffm.) Underw.—SUSQUEHANNA, *Saunders;* LACKAWANNA; PIKE, and MONROE, Pocono, *Porter;* LYCOMING, *McMinn;* POTTER, *Smith;* ARMSTRONG, *Knipe;* ERIE, Presque Isle, *Garber.*

D. spinulosa intermedia (Muhl.) Underw.—PIKE, *Brown* and *Saunders;* MONROE, Pocono; NORTHAMPTON, Easton, and BUCKS, Nockamixon Cliffs, *Porter;* DELAWARE, (Smith's Catalogue); CHESTER, (Flora Cestrica); LANCASTER; SOMERSET, *Brown;* BEAVER and BUTLER, *Shafer;* ERIE, *Fenno.*

D. Thelypteris (L.) A. Gray.—In wet woods or marshes, or rarely in dry meadows. PIKE, *Brown* and *Saunders;* NORTHAMPTON and BUCKS, *Porter;* PHILADELPHIA; DELAWARE, Tinicum; CHESTER, (Flora Cestrica); LANCASTER; FRANKLIN, *Green;* HUNTINGDON, *Lowrie;* ALLEGHENY, *Shafer;* ERIE, *Fenno.*

Polystichum Roth.

P. acrostichoides (Michx.) Schott.—On rocky hillsides or in woods.—PIKE, *Brown* and *Saunders;* MONROE, NORTHAMPTON and BUCKS, *Porter;* PHILADELPHIA; DELAWARE, (Smith's Catalogue); CHESTER, (Flora Cestrica); LANCASTER and FRANKLIN, *Porter;* COLUMBIA, *Heller;* CENTRE, *Rothrock;* SOMERSET, *Brown* and *Saunders;* ALLEGHENY, *Shafer;* VENANGO, *Bell.*

P. acrostichoides Schweinitzii (Beck) Small.—NORTHAMPTON, Easton, *Porter;* MONROE, *Small.*

P. Braunii (Spenner) Lawson.—In rocky woods. SULLIVAN, *Griffith.*

Phegopteris Fée.

P. Dryopteris (L.) Fée.—In moist woods. WAYNE, *Garber;* PIKE, *Brown* and *Saunders;* MONROE, *Small;* WYOMING, *Shirk;* LACKAWANNA, *Dudley;* TIOGA, *Garber;* LUZERNE, *Heller;* NORTHAMPTON, Glendon, *Seibert;* DELAWARE, *Price;* CHESTER, *Diffenbaugh;* LANCASTER, *Mifflin;* HUNTINGDON, Pennsylvania Furnace, *Porter;* BLAIR, *Boecking;* SOMERSET, *Brown* and *Saunders;* ARMSTRONG, *Knipe;* ERIE, *Fenno.*

P. hexagonoptera (Michx.) Fée.—In dry woods and on hillsides. MONROE; LUZERNE, *Heller;* NORTHAMPTON, *Porter;* MONTGOMERY, *Saunders;* DELAWARE, *Jahn;* CHESTER, (Flora Cestrica); LANCASTER; FRANKLIN and HUNTINGDON, *Porter;* YORK, *MacElwee;* SOMERSET, *Brown* and *Saunders;* BEAVER, *Shafer.*

P. Phegopteris (L.) Underw.—On hillsides and in low woods. LUZERNE, *Dudley;* PIKE, *Brown* and *Saunders;* MONROE, Pocono, and NORTHAMPTON, Maston's Creek, *Porter;* SCHUYLKILL, *Stauffer;* WYOMING, *Sharp;* SULLIVAN, *Smith;* TIOGA; HUNTINGDON, *Lowrie;* BLAIR, *Davis;* VENANGO, *Bell.*

P. Robertiana (Hoffm.) A. Braun.—In woods and thickets. ERIE, Union City, *Fenno.*

Asplenium L.

A. acrostichoides Sw.—In rich moist woods. PIKE, *Brown* and *Saunders;* MONROE and NORTHAMPTON, *Porter;* BUCKS, *Moyer;* BERKS, *Hiester;* DELAWARE, (Smith's Catalogue); LANCASTER and FRANKLIN, *Porter;* BEAVER and ALLEGHENY, *Shafer.*

A. angustifolium Michx.—In moist woods. BERKS, Reading, *Hiester;* LANCASTER, YORK and BLAIR, Burgsoon's Gap, *Porter;* FAYETTE, *Curtis;* ALLEGHENY, *Knipe;* ERIE, *Fenno.*

A. Bradleyi D. C. Eaton.—On rocks, preferring limestone. LANCASTER, along the Tucquan Creek, *Small;* McCall's Ferry, *Heller.*

A. ebenoides R. R. Scott.—On limestone. NORTHAMPTON, Glendon, Easton, *Porter, Small;* LEHIGH.

A. Filix-foemina (L.) Bernh.—In woods, thickets and by fences. PIKE, *Brown* and *Saunders;* MONROE and NORTHAMPTON, *Porter;* BUCKS, *Moyer;* DELAWARE, (Smith's Catalogue); CHESTER, (Flora Cestrica); LANCASTER, *Porter;* LUZERNE, *Heller;* LYCOMING, *McMinn;* FRANKLIN, *Green;* HUNTINGDON, *Lowrie;* BEAVRE and ALLEGHENY, *Shafer;* VENANGO, *Bell;* ERIE, *Fenno.*

A. montanum Willd.—On rocks. LACKAWANNA, *Dudley;* MONROE, Water Gap, *Knipe;* CARBON, Onoko Glen, *Rau;* LEHIGH; NORTHAMPTON, Easton, *Diffenbaugh;* LANCAS-

TER, on the Tucquan, *Porter;* YORK, York Furnace, *Diffenbaugh;* SOMERSET, Laurel Hill, *Brown* and *Saunders.*

A. pinnatifidum Nutt.—On rocks. YORK, York Furnace, and LANCASTER, on the Tucquan and at Georgetown, *Porter;* FAYETTE, *Shafer.*

A. platyneuron (L.) Oakes.—On rocks and shaded slopes. PIKE, *Brown* and *Saunders;* MONROE and NORTHAMPTON, *Porter;* BUCKS; DELAWARE, (Smith's Catalogue); CHESTER, (Flora Cestrica); LANCASTER, FRANKLIN and HUNTINGDON, *Porter;* ALLEGHENY, *Shafer.*

A. Ruta-muraria L.—On limestone. NORTHAMPTON, Easton, *Porter;* BUCKS, *Fretz;* CHESTER, (Flora Cestrica); LANCASTER; FRANKLIN; HUNTINGDON and BLAIR, *Porter;* CENTRE, *Rothrock.*

A. Trichomanes L.—On limestone rocks. LACKAWANNA, *Dudley;* PIKE, *Brown* and *Saunders;* MONROE, NORTHAMPTON and BUCKS, *Porter;* DELAWARE, *Smith;* CHESTER (Flora Cestrica); LANCASTER; FULTON, *Saunders;* HUNTINGDON, *Porter;* SUSQUEHANNA, *Graves;* VENANGO, *Bell;* BEAVER and ALLEGHENY, *Shafer.*

Camptosorus Link.

C. rhizophyllus (L.) Link.—On dry rocks, preferring limestone. MONROE and NORTHAMPTON, Easton, *Porter;* BUCKS, *Moyer;* DELAWARE (Smith's Catalogue); CHESTER and MONTGOMERY, *Saunders;* PIKE, *Brown* and *Saunders;* LANCASTER, YORK, FRANKLIN and HUNTINGDON, Barre Forge, *Porter;* FULTON, *Saunders;* SUSQUEHANNA, *Graves;* SULLIVAN, *Smith;* CENTRE, *Rothrock;* SOMERSET, *Brown* and *Saunders;* BEAVER and ALLEGHENY, *Shafer;* VENANGO, *Krout;* ERIE, *Fenno.*

Woodwardia J. E. Smith.

W. areolata (L.) Moore.—In swamps and moist soil. BUCKS, Bristol, *Diffenbaugh;* DELAWARE, Tinicum.

W. Virginica (L.) J. E. Smith.—In swamps. SUSQUEHANNA, *Graves;* PIKE, *Brown* and *Saunders;* MONROE, Broadheadsville, *Porter;* NORTHAMPTON, Moore Township, *Wolle;* BUCKS, Bristol, *Diffenbaugh;* DELAWARE, Tinicum, *B. H. Smith;* CENTRE, near Pennsylvania Furnace, *Porter.*

Pteridium Scop.

P. aquilinum (L.) Kuhn.—In dry or moist sunny places. LACKAWANNA; PIKE, *Brown* and *Saunders;* MONROE; LUZERNE, *Heller;* SCHUYLKILL; CARBON; NORTHAMPTON, *Porter;* BUCKS, *Moyer;* DELAWARE (Smith's Catalogue); CHESTER (Flora Cestrica); LANCASTER, FRANKLIN and HUNTINGDON, *Porter;* ALLEGHENY, *Shafer;* ERIE, *Fenno.*

P. aquilinum subcaudatum Clute.—DELAWARE, *Smith.*

Cheilanthes Sw.

C. lanosa (Michx.) Watt.—On rocks. NORTHAMPTON, Easton, *Seibert;* BERKS, Reading, *Hiester;* BUCKS, *Fretz;* CHESTER, *Carter;* MONROE, Water Gap, *Knipe;* LANCASTER, Safe Harbor, *Porter.*

Cryptogramma R. Br.

C. Stelleri (S. G. Gmel.) Prantl.—On rocks, preferring limestone. SULLIVAN, on the face of a rock in the Loyalsock Creek, *C. E. Smith.*

Pellaea Link.

P. atropurpurea (L.) Link.—On rocks, preferring limestone. NORTHAMPTON, Easton, *Porter;* MONTGOMERY, *Jahn;* CHESTER, *Saunders;* CUMBERLAND, *Shafer;* LANCASTER, FRANKLIN and HUNTINGDON, *Porter;* CENTRE, *Rothrock;* WESTMORELAND, *Shafer.*

Adiantum L.

A. pedatum L.—In woods. PIKE, MONROE and NORTHAMPTON, *Porter;* BUCKS, *Moyer;* PHILADELPHIA; DELAWARE, *Jahn;* CHESTER (Flora Cestrica); LANCASTER, FRANK-

LIN and BLAIR, *Porter;* COLUMBIA, *Heller;* SOMERSET, *Brown* and *Saunders;* BEAVER and ALLEGHENY, *Shafer;* ERIE, *Fenno.*

Polypodium L.

P. vulgare L.—On rocks. NORTHAMPTON, Easton, *Porter;* BUCKS, *Moyer;* DELAWARE, *Jahn;* CHESTER (Flora Cestrica); PIKE and MONROE, *Porter;* LUZERNE, *Heller;* LANCASTER, FRANKLIN and HUNTINGDON, *Porter;* SOMERSET, *Brown* and *Saunders;* BEAVER and ALLEHENY, *Shafer;* ERIE, *Fenno.*

EQUISETALES.

EQUISETACEAE.

Equisetum L.

E. arvense L.—In sandy soil. MONROE; NORTHAMPTON; BUCKS; PHILADELPHIA; DELAWARE; CHESTER; LANCASTER; FRANKLIN and HUNTINGDON, *Porter;* ALLEGHENY, *Houston;* VENANGO, *Krout;* ERIE, *Fenno.*

E. fluviatile L.—In swamps and along the borders of ponds. TIOGA, *Garber;* LUZERNE, *Heller;* LEHIGH, *Rau;* MONROE and NORTHAMPTON, *Porter;* BUCKS, Tullytown, *Fretz;* ERIE, *Fenno.*

E. hyemale L.—In wet places and on banks, especially along rivers and lakes. NORTHAMPTON and BUCKS, *Porter;* DELAWARE, CHESTER; LANCASTER; ERIE, *Fenno.*

E. laevigatum A. Br.—Along streams and rivers, especially in clay soil. NORTHAMPTON, Easton, along the Delaware, *Porter.*

E. littorale Kuehl.—On sandy river and lake shores. NORTHAMPTON, Easton, *Porter;* BUCKS, Point Pleasant, *Fretz;* DELAWARE, *Palmer;* LANCASTER, YORK and DAUPHIN, on the Susquehanna, *Porter.*

E. pratense Ehrh.—In sandy places. CLEARFIELD, *McMinn.*

E. scirpoides Michx.—On moist wooded banks. Credited to the State in Britton and Brown's Illustrated Flora.

E. sylvaticum L.—In moist sandy woods. PIKE, *Brown* and *Saunders;* MONROE and NORTHAMPTON, *Porter;* LUZERNE, *Heller;* TIOGA, *Garber;* BUCKS, *Moyer;* LEHIGH, *Garber;* DELAWARE; CHESTER; LANCASTER, *Porter;* LEBANON, *Small;* FULTON, *Saunders;* HUNTINGDON, Warrior's Mark, *Lowrie;* BEAVER, *Shafer.*

E. variegatum Schleich.—ERIE, Presque Isle, *Garber.*

LYCOPODIALES.

LYCOPODIACEAE.

Lycopodium L.

L. alopecuroides L.—In pine-barren swamps. BUCKS, Tullytown, *Fretz;* ERIE, Presque Isle, *Guttenberg.*

L. annotinum L.—In woods and thickets, commonly in dry soil. MONROE, Pocono, *Porter;* TIOGA, *Garber;* SULLIVAN, *C. E. Smith;* CENTRE, Bear Meadows and HUNTINGDON, Warrior's Bridge, *Porter;* CAMBRIA; SOMERSET, *Brown* and *Saunders.*

L. clavatum L.—In woods. TIOGA and LUZERNE, *Garber;* MONROE, *Porter;* BUCKS, *Moyer;* CHESTER; DELAWARE, *Smith;* HUNTINGDON, *Bucher;* BLAIR and CAMBRIA, *Porter;* ELK, *McMinn;* LANCASTER, *Heller.*

L. complanatum L.—In woods and thickets. LACKAWANNA, Moosic Lake, *Dudley;* MONROE and NORTHAMPTON, *Porter;* BUCKS, *Moyer;* DELAWARE, *B. H. Smith;* CHESTER; LANCASTER, *Porter;* SOMERSET, *Brown* and *Sauuders;* ALLEGHENY, *Shafer;* ERIE, *Clinton.*

L. inundatum L.—In sandy bogs. LACKAWANNA, Moosic Lake, and MONROE, Naomi Pines, CARBON and SCHUYLKILL, Broad Mountain, *Porter;* LUZERNE, *Heller*; LYCOMING, *McMinn.*

L. inundatum Bigelovii Tuckerm.—In low grounds. DELAWARE, Tinicum, *Porter.*

L. lucidulum Michx.—In cold, damp woods. MONROE, *Porter;* LUZERNE, *Heller;* NORTHAMPTON, Easton, *Porter;* BUCKS, *Moyer;* DELAWARE, (Smith's Catalogue); CHESTER; LEBANON, *Porter;* YORK, York Furnace, *MacElwee;* FRANKLIN and HUNTINGDON, *Porter;* BLAIR, *Lowrie;* SOMERSET, *Brown* and *Saunders*; BUTLER, *Shafer.*

L. obscurum L.—In moist woods. LACKAWANNA, *Dudley;* MONROE; LUZERNE, *Heller;* NORTHAMPTON, *Porter;* BUCKS, *Moyer;* DELAWARE, (Smith's Catalogue); CHESTER; LANCASTER; LEBANON, *Porter;* FRANKLIN; HUNTINGDON and CAMBRIA, *Porter;* SOMERSET, *Brown* and *Saunders;* ERIE, *Shafer.*

L. Selago L.—On rocks. MONROE, Water Gap, at the summit of the mountain. Elevation 1600 feet, *Knipe.*

L. tristachyum Pursh.—In woods. MONROE, Tobyhanna Mills, *Britton;* HUNTINGDON, *Lowrie.*

SELAGINELLACEAE.

Selaginella Beauv.

S. apus (L.) Spring.—In moist shaded places, often among grass. MONROE and NORTHAMPTON, Easton, *Porter;* BUCKS, *Moyer;* MONTGOMERY, *Saunders;* DELAWARE; CHESTER; FRANKLIN, Mercersburg, and HUNTINGDON, *Porter.*

S. rupestris (L.) Spring.—On dry rocks. PIKE, *Brown* and *Saunders;* MONROE; NORTHAMPTON, Easton, and BUCKS, Nockamixon Cliffs, *Porter;* BERKS; CHESTER; LANCASTER, *Porter.*

ISOETACEAE.

Isoetes L.

I. Dodgei A. A. Eaton.—In mud flats. BUCKS, Mount Pleasant, *Fretz.*

Isoetes echinospora Durieu.—Represented in our range by the following subspecies:

I. echinospora Braunii (Durieu) Engelm.—WAYNE, *Saunders;* LACKAWANNA, Moosic Lake, and CARBON, Great Lake, *Porter;* CRAWFORD, Conneaut Lake, and ERIE, Presque Isle, *Garber.*

I. echinospora robusta Engelm.—BUCKS, near Riegelsville, *Ruth.*

I. Engelmannii A. Br.—In mud, chiefly about ponds and ditches, and on river shores. MONROE, Tannersville and Water Gap, *Porter*; LEHIGH, near Bethlehem, *Rau;* BUCKS, *Fretz.* Chester, West Chester, Darlington! J.H.P.

I. Engelmannii gracilis Engelm.—DELAWARE, Tinicum; BUCKS.

I. Engelmannii valida Engelm.—LANCASTER, Smithville, (original station), LEBANON, near Cornwall; HUNTINGDON, in a pond near Warrior's Mark, *Porter.*

I. riparia Engelm.—Along rivers. BUCKS, near Tullytown, *Fretz;* PHILADELPHIA, *C. E. Smith* and *Leidy;* DELAWARE, *G. Smith.*

[L. of C.]

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